THE GAME OF CHESS

NICOLAE STEINU

The Game of Chess

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The Game of Chess

Games | History | Famous Games | Chess Players | Chess Rules | Strategy & Tactics | Problems & Puzzles | Chess Computing | Documentation | Chess Variants | Miscellaneous | License

Chess (the "Game of Kings") is a board game for two players, which requires 32 *chesspieces* (or *chessmen*) and a board demarcated by 64 squares. Gameplay does not involve random luck; consisting solely of strategy, (see also tactics, and theory). Chess is one of humanity's more popular games; it is has been described not only as a game, but also as both art and science. Chess is sometimes seen as an abstract wargame; as a "mental martial art".

The number of legal positions in chess is estimated to be between 10^{43} and 10^{50}, and the game-tree complexity approximately 10^{123}, while there are 0 (=(stale)mate) to 218 possibilities per move. Chess is played both recreationally and competitively in clubs, tournaments, on-line, and by mail (correspondence chess).

Many variants and relatives of chess are played throughout the world; amongst them, the most popular are Xiangqi (China), Buddhi Chal (Nepal) and Shogi (Japan), all of which come from the same historical stem as chess.

History

Chess originated from the Indian game Chaturanga, about 1400 years ago. However many countries make claims to have invented it. It reached Russia via Mongolia, where it was played at the beginning of the 7th century. From India it migrated to Persia, and spread throughout the Islamic world after the Muslim conquest of Persia. It was introduced into Spain by the Moors in the 10th century, where a famous games manuscript covering chess, backgammon, and dice named the Libro de los juegos, was written under the sponsorship of Alfonso X of Castile during the 13th century. Chess reached England in the 11th century, and evolved through various versions such as Courier.

By the end of the 15th century, the modern rules for the basic moves had been adopted (from Italy): pawns gained the option of moving two squares on their first move and the en passant capture therewith; bishops could move arbitrarily far along an open diagonal (previously being limited to a move of exactly two squares diagonally) while losing the ability to jump over the intervening square, and the queen was allowed to move arbitrarily far in any direction, making it the most powerful piece. (Before, she could only move one square diagonally.) There were still variations in rules for castling and the outcome in the case of stalemate.

These changes collectively helped make chess more open to analysis and thereby develop a more devoted following. The game in Europe since that time has been almost the same as is

played today. The current rules were finalized in the early 19th century, except for the exact conditions for a draw.

The most popular piece design, the "Staunton" set, was created by Nathaniel Cook in 1849, endorsed by a leading player of the time Howard Staunton, and officially adopted by FIDE in 1924.

Staunton styled himself the first World Champion of Chess in the 1850s; however he avoided matches against the strongest competitors of his day, most notably American genius Paul Morphy. The first player to stake a widely recognized claim to being World Champion was Wilhelm Steinitz in 1866.

The title "Grandmaster" was created by Russian Tsar Nicholas II who first awarded it in 1914 to five players after a tournament he had funded in Saint Petersburg.

The World Chess Federation (FIDE) was founded in 1924. When the reigning World Champion Alexandre Alekhine died in 1946, FIDE took over the function of organizing World Championship matches. Before that time, sitting champions had been somewhat capricious in determining against whom and on what terms they would accept a challenge match. FIDE also assumed the role of awarding the titles Grandmaster and International Master, as well as eventually assigning numerical ratings to players.

In 1993, in the middle of a cycle of matches to determine the World Champion, Garry Kasparov and Nigel Short broke with FIDE to organize their own match for the title. They complained of corruption and a lack of professionalism within FIDE, and formed a competing Professional Chess Association. Since then there have been two simultaneous World Champions and World Championships: one extending the Steinitzian lineage in which the current champion plays a challenger in match format (a series of many games); the other following FIDE's new format of a tennis-style elimination--or "Knockout"--tournament with dozens of players competing.

Once considered only a curiosity, computer chess programs have risen in ability to the point where they can seriously challenge human grandmasters.

Kasparov, then ranked number one in the world, played a six-game match against IBM's chess computer Deep Blue in 1996. Deep Blue shocked the world by winning the first game in Deep Blue - Kasparov, 1996, Game 1, but Kasparov convincingly won the match by winning 3 games and drawing 2. The six-game rematch in 1997 was won by the machine which was subsequently retired by IBM. In October, 2002, Vladimir Kramnik drew in an eight-game match with the computer program Deep Fritz. In 2003, Garry Kasparov drew both a six-game match with the computer program Deep Junior in February, and a four-game match against X3D Fritz in November.

In May 2002, several leaders in the chess world met in Prague and signed a unity agreement which intended to ensure the crowning of an undisputed world champion before the end of 2003, and restore the traditional cycle of qualifying matches by 2005. The semifinalists for

the 2003 championship were to be Ruslan Ponomariov vs. Gary Kasparov, and Vladimir Kramnik vs. Peter Leko. The former match, organised by FIDE, had been scheduled to take place in Yalta beginning on September 18, 2003, but was called off on August 29 after Ponomariov refused to sign his contract for it. There is a proposal that Kasparov will instead play a match in 2004 against the winner of the next FIDE knock-out world championship. The Kramnik-Leko match was originally to be held in Budapest, but funding collapsed and it was called off. As of December 2003, there are no reported plans for the match, and it is not clear whether it will ever go ahead.

At one time, chess games were recorded using Descriptive chess notation, a somewhat clumsy notation that takes more space, more time to say, and more time to explain than its replacement, algebraic chess notation. Portable Game Notation (PGN) is the most common standard computer-processable format for recording chess games, and is based on algebraic chess notation.

Games

Game Theory | Game Classification | Game of Strategy | Strategy Games | Board Games

All through human history, people have played **games**. They've done so mostly to entertain themselves and others. Games are a form of self-expression, and also a means of training young people, and of reminding adults of the preferred values of the society in which they live.

Games can involve one person acting alone, but more often involve competition among two or more persons with differing goals. Philosopher David Kelley, in his popular introductory reasoning text *The Art of Reasoning*, defines the concept "game" as "a form of recreation constituted by a set of rules that specify an object to be attained and the permissible means of attaining it."

This covers most cases well, but does not quite fit with things like war games and sports that are often done not for entertainment but to build skills for later use. In *Philosophical Investigations,* philosopher Ludwig Wittgenstein argued that the concept "game" could not be defined. Stephen Linhart said, "People say you have to choose between games and real life. I think this claim that there's a dichotomy is very dangerous."

Many technical fields are often applied to the study of games, including probability, statistics, economics, and game theory.

Types of Games

- Board games
- Car games
- Card games
- Casino games
- Children's games
- Computer games or Dojin games
- Counting-out games
- Dice games
- Drinking games
- Educational games

- Game shows
- Games of logic
- Games of physical activity
- Games of physical skill
- Games of chance
- Games of skill
- Games of strategy
- Games of status
- Group-dynamic games
- Guessing games
- Letter games
- Mathematical games
- Online skill-based games
- Open gaming
- Party games
- Pencil and paper games
- Play by mail games
- Puzzles
- Quiz
- Role-playing games, MMORPGs
- Spoken games
- Table-top games
- Tile-based games
- Unclassified games

- Video games
- Word games

See also: Game classification, Game Theory

Game theory

Game theory, a branch of mathematics, operations research and economics, is the analysis of interactions with formalized incentive structures ("games"). The predicted and actual behavior of individuals in these games are studied, as well as optimal strategies. Seemingly different types of interactions can be characterized as having similar incentive structures, thus all being examples of one particular game.

Game theory is closely related to economics in that it seeks to find rational strategies in situations where the outcome depends not only on one's own strategy and "market conditions", but upon the strategies chosen by other players with possibly different or overlapping goals. It also finds wider application in fields such as political science and military strategy.

The results can be applied to simple games of entertainment or to more significant aspects of life and society. An example of the application of game theory to real life is the prisoner's dilemma as popularized by mathematician Albert W. Tucker; it has many implications for the nature of human cooperation. Biologists have used game theory to understand and predict certain outcomes of evolution, such as the concept of evolutionarily stable strategy introduced by John Maynard Smith in his essay *Game Theory and the Evolution of Fighting*. See also Maynard Smith's book *Evolution and the Theory of Games*.

Other branches of mathematics, in particular probability, statistics and linear programming, are commonly used in conjunction with game theory to analyse games.

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1 Types of games and examples

2 Risk aversion

3 Games and numbers

4 History

5 References

Types of games and examples

Game theory classifies games into many categories that determine which particular methods can be applied to solving them (and indeed how one defines "solved" for a particular category). Some common categories are:

Zero-sum games are those in which the total benefit to all players in the game adds to zero (or more informally put, that each player benefits only at the expense of others). Chess and Poker are zero-sum games, because one wins exactly the amount one's opponents lose. Business, politics and the Prisoner's dilemma, for example, are non-zero-sum games because some outcomes are good for all players or bad for all players. It is easier, however, to analyze a zero-sum game, and it turns out to be possible to transform any game into a zero-sum game by adding an additional dummy player often called "the board," whose losses compensate the players' net winnings.

A convenient way to represent a game is given by its payoff matrix. Consider for example the two-player zero-sum game with the following matrix:

		Player 2		
		Action A	Action B	Action C
Player 1	Action 1	30	-10	20
	Action 2	10	20	-20

This game is played as follows: the first player chooses one of the two actions 1 or 2, and the second player, unaware of the first player's choice, chooses one of the three actions A, B or C. Once these choices have been made, the payoff is allocated according to the table; for instance, if the first player chose action 2 and the second player chose action B, then the first player gains 20 points and the second player loses 20 points. Both players know the payoff matrix and attempt to maximize the number of their points. What should they do?

Player 1 could reason as follows: "with action 2, I could lose up to 20 points and can win only 20, while with action 1 I can lose only 10 but can win up to 30, so action 1 looks a lot better." With similar reasoning, player 2 would choose action C (negative numbers in the table are good for him). If both players take these actions, the first player will win 20 points. But how about if player 2 anticipates the first player's reasoning and choice of action 1, and deviously goes for action B, so as to win 10 points? Or if the first player in turn anticipates this devious trick and goes for action 2, so as to win 20 points after all?

The fundamental and surprising insight by John von Neumann was that probability provides a way out of this conundrum. Instead of deciding on a definite action to take, the two players assign probabilities to their respective actions, and then use a random device which, according to these probabilities, chooses an action for them. The probabilities are computed so as to maximize the expected point gain independent of the opponent's strategy; this leads to a linear programming problem with a unique solution for each player. This method can compute provably optimal strategies for all two-player zero-sum games.

For the example given above, it turns out that the first player should chose action 1 with probability 57% and action 2 with 43%, while the second player should assign the probabilities 0%, 57% and 43% to the three actions A, B and C. Player one will then win 2.85 points on average per game.

Non Zero-Sum game The most famous example of a non-zero-sum game is the Prisoner's dilemma, as mentioned above. Any gain by one player does not necessarily correspond with a loss by another player. Most real-world situations are non zero-sum games. For example, a business contract ideally is a positive-sum game, where each side is better off than if they didn't have the contract. Most games that people play for recreation are zero-sum.

Cooperative games are those in which the players may freely communicate among themselves before making game decisions and may make bargains to influence those decisions. Monopoly can be a cooperative game, while the Prisoner's dilemma is not. However, Monopoly is a zero-sum game as there can be only one winner, whereas the Prisoner's dilemma is a non-zero-sum game.

Complete information games are those in which each player has the same game-relevant information as every other player. Chess and the Prisoner's dilemma are complete-information games, while Poker is not. Complete information games are rare in the real world, and are usually used only as approximations of the actual game being played.

Risk aversion

For the above example to work, the participants in the game have to be assumed to be *risk neutral*. This means that, for example, they would value a bet with a 50% chance of receiving 20 'points' and a 50% chance of paying nothing as being worth 10 points. However, in reality people are often *risk averse* and prefer a more certain outcome - they will only take a risk if they expect to make money on average. Subjective expected utility theory explains how a measure of utility can be derived which will always satisfy the criterion of risk neutrality, and hence is suitable as a measure for the payoff in game theory.

One example of risk aversion can be seen on Game Shows. For example, if a person has a 1 in 3 chance of winning $50,000, or can take a sure $10,000, many people will take the sure $10,000.

Games and numbers

John Conway developed a notation for certain games and defined several operations on those games, originally in order to study Go endgames. In a surprising connection, he found that a certain subclass of these games can be used as numbers, leading to the very general class of surreal numbers.

History

Though touched on by earlier mathematical results, modern **game theory** became a prominent branch of mathematics in the 1940s, especially after the 1944 publication of *The Theory of Games and Economic Behavior* by John von Neumann and Oskar Morgenstern. This profound work contained the method for finding optimal solutions for two-person zero-sum games alluded to above.

Around 1950, John Nash developed a definition of an "optimum" strategy for multi player games where no such optimum was previously defined, known as Nash equilibrium. This concept was further refined by Reinhard Selten. These men were awarded The Bank of Sweden Prize in Economic Sciences in Memory of Alfred Nobel in 1994 for their work on game theory, along with John Harsanyi who developed the analysis of games of incomplete information.

Conway's number-game connection was found in the early 1970s.

See also Game classification.

References

- Oskar Morgenstern, John von Neumann: *The Theory of Games and Economic Behavior, 3rd ed.*, Princeton University Press 1953
- Alvin Roth: *Game Theory and Experimental Economics page*, Comprehensive list of links to game theory information on the Web
- Maynard Smith: *Evolution and the Theory of Games*, Cambridge University Press 1982

Game classification

Games may be classified and sub-classified according to many different criteria. Each scheme has its own advantages and disadvantages. The categories on the main game page is rather a hodge-podge, and might benefit from some rationalization. However, before undertaking to refactor the game pages, please give thought to all of the following distinctions.

- What sort of **challenge / skill** is involved (e.g. abstract calculation, anagramming, luck, bluffing, verbalizing, coordination, speed, etc.)?

  - Leads to the ("Folk Model") theory of 4 categories: games of skill, games of chance, games of strategy, games of status propagated by Anderson/Moore and Brian Sutton-Smith.

This scheme is probably most natural, and quite neatly separates billiards from chess from Tomb Raider. The main disadvantage is that too many games fall under more than one head. For example Scrabble relies a great deal on word knowledge and anagramming, but also has significant strategic aspects.

- What **equipment** is used to play the game (e.g. a computer, a board, cards, tiles, dice, etc.)?

This categorization is also very natural and common, but sometimes problematic. For example, Balderdash is a commercial board game, whereas Fictionary is almost identical but uses no board.

Something is odd with any scheme which forces such similar games to be listed under completely different headings.

Other distinctions are less important, and apply more or less well to different major headings. For example, example, the difference between team and individual sports is fundamental, whereas team board games are so rare as to hardly merit a category. The remaining distinctions apply mostly to non-physical games.

- **How many players** does the game accommodate? The most important division is between two-player and multiplayer games, because nearly all multiplayer games involve negotiation or coalition-building to some degree. Among multiplayer games it is also important (particularly to whomever is organizing the party) what range in the number of players can be accommodated. One disadvantage of this distinction is that a few games such as Titan are equally good two-player or multiplayer.

- To what extent to which **chance** is a factor? Games run the gamut from having no chance whatsoever (checkers, Pente) to being entirely determined by chance (roulette, Chutes and Ladders).

- How deep is the **strategy**? Some games (bridge, Go) can be studied for years without exhausting what there is to learn, whereas others (Three Men's Morris) can be mastered relatively easily.

- **How easy** is it to learn the **rules** of the game? Chess and Go are often compared for their depth and abstraction, but chess has considerably more difficult rules. This consideration is particularly important for family games, where ideally children should be able to play along easily, without making the game so simple it holds no interest for adults.

- Is the game relatively **abstract** or does it attempt to simulate some aspect of reality (e.g. stock market, war scenarios)? For some simulation games, the realism is more important than all other factors, whereas some games (Set) are so abstract that the names and shapes of all the pieces could change without affecting playability. However, most games lie somewhere in between, with a balance between abstraction and simulation.

- **Are players eliminated** as the game progresses, or can everyone play along until the end? This is most important socially, as a host may wonder how to entertain guests who have been knocked out of the main event.

- What is the **objective** of the game? This is most useful as a sub-subheading, because different types of games tend to have different types of objectives. For example card games have natural categories of trick-taking and shedding games, which don't apply to board games, whereas board games have categories of capture, racing, and immobilization which don't apply to card games.

Game of strategy

A **game of strategy** is a game where we influence the outcome through interaction with the environmnet mainly people. If played with a pseudo artificial intelligence it sometimes comes near the games of skill.

Its benefit is the open interaction in with other people. The game partners have similar starting points and evaluate how others humans may react under same conditions. So game strategys evolve with more or less spirit involved to get advanteges and/or protect artfully.

- Board games like
  - Checkers
  - Chess
  - Go
  - Nine Men's Morris (Mills)
- Mastermind

Related topics

- Game classification

Strategy games

Strategy games are typically board games or video games with a high significance of the players' decision-making skills in determining the outcome. Many games include this element to a greater or lesser degree, making demarcation difficult. It is therefore more accurate to describe a particular game as having a *degree* of strategic elements.

Strategy (and tactics) are usually contrasted with *luck*, and one can think of games as existing on a continuum from pure skill to pure chance.

Major categories are:

Table of contents

1 Abstract strategy

2 Simulation

3 Real-time strategy

4 Turn-based

5 War game

5.1 General Strategy
5.2 Turn-based
5.3 Real-time (RTS)

Abstract strategy

The game is only loosely tied to a real-world theme, if at all. The mechanics do not attempt to simulate reality, but rather serve the internal logic of the game. Chess, checkers, and go are excellent examples.

Simulation

The game is an attempt to capture the decisions inherent to some real-world situation. Most of the mechanics are chosen to reflect what the real-world consequences would be of each player action and decision. It is problematic to cleanly divide abstract games from simulations, and more accurate to think of games as existing on a continuum of almost pure abstraction (like Abalone) to almost pure simulation (like Strat-o-matic Baseball).

Real-time strategy

Usually applied only to certain computer strategy games, this indicates that the action in the game is continuous, and players will have to make their decisions and actions within the backdrop of a constantly changing game state. Very few non-computer strategy games are real-time; one example is Icehouse.

The game considered the father of RTS games is Dune 2, by Westwood Studios, and was followed by their seminal Command & Conquer.
Cavedog's Total Annihilation (1997), Blizzard's Warcraft (1994) series and StarCraft (1997), and Ensemble Studios' Age of Empires (1998) series are some of the most popular RTS games.

Turn-based

The term "turn-based strategy game" (TBS) is usually reserved for computer strategy games in order to distinguish them from real-time games. A player of a turn-based game is allowed a period of analysis (often infinite) before committing to a game action. Almost all non-computer strategy games are turn-based. See also: Civilization series, X-COM

War game

The game is an attempt to simulate an actual or reasonable hypothetical battle. Players will have to consider situations that are analogous to the situations faced by leaders of historical battles. As such, war games are usually heavy on simulation elements. Some games of this type will use physical models of detailed terrain and miniature representations of people and equipment to depict the game state.

A popular wargame with physical models is Warhammer 40k. Diplomacy and Global Diplomacy are also strategic wargames.

(list)

General Strategy

- Defender of the Crown

- Lords of Conquest
- Wargame Construction Set

Turn-based

- Alpha Centauri
- Battle Isle series
- Chaos,Lords Of Chaos,Rebelstar series
- Civilization series
- Etherlords series
- Fire Emblem series
- Galactic Civilizations
- Heroes of Might and Magic series
- Master of Orion series
- Space Empires series
- Stars!
- VGA-Planets (for play-by-email)
- WarLords series
- Worms series
- X-COM series

Real-time (RTS)

- Age of Empires series
- Age of Mythology
- Black and White
- Command and Conquer series

- Commandos series
- The Corporate Machine
- Dark Reign
- Dune series
- Empire Earth
- Europa Universalis series
- Myth series
- Populous series
- Railroad Tycoon
- Red Alert
- Simutrans
- StarCraft series
- Syndicate series
- Total Annihilation
- Warcraft series

Board games

A **board game** is a game for one or more players played with a premarked surface and game counters. This page classifies board games according to the concerns which might be uppermost for someone organizing a gaming event or party. See the article on game classification for other alternatives.

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1 Two-player abstract strategy games

1.1 Classic two-player abstract strategy games
1.2 Modern two-player abstract strategy games

2 Two-player games of chance

3 Multi-player elimination games

4 European race games

5 Multiplayer games without elimination

6 Modern Wargames

7 Games of physical skill

8 Children's games

10 Literature

Two-player abstract strategy games

Players know the entire game state at all times, and random generators such as dice are not used.

Classic two-player abstract strategy games

- Alquerque
- Chess
- Checkers
- Go
- Gomoku
- Hnefatafl
- Mak-yek
- Mancala
- Nine Men's Morris
- Pool Checkers
- Rithmomachia
- Shogi
- Xiang Qi

Modern two-player abstract strategy games

- Abalone
- Alak
- Amazons
- Andantino
- Arimaa
- Ataxx
- Breakthrough
- Chinese checkers
- Connect Four
- Crossings
- Dvonn
- Epaminondas
- Fanorona
- Five Field Kono
- Gonnect
- Halma
- Havannah
- Heads and Tails
- Hex
- Kensington
- L Game
- Lines of Action
- Lotus

- Martian Chess (for two or four players)
- Ninuki-renju
- Orbit
- Quoridor
- Pente
- Phutball
- Reversi
- Spangles
- Tanbo
- Three Musketeers
- Turnabout
- Trax
- TwixT
- Y

Two-player games of chance

Luck or hidden information may decide the outcome, but skill predominates.

- Backgammon
- Battleship
- CooperYoung (aka InterSect)
- Liu po
- Ludo
- Parchisi
- Parques
- Senet

- Sugoroku
- Stratego

Multi-player elimination games

Participants are typically eliminated before game end.

- Crash! The bankrupt game
- Diplomacy
- Monopoly
- Risk
- Titan

European race games

- Game of the Goose
- Tour of Europe
- Round the World with Nellie Bly
- Game of Japan
- The Sun of Brunswick
- Jeu du Grand-Homme
- Circle of Knowledge
- Peter Rabbit's Race Game

Multiplayer games without elimination

Everyone can play along to the end. These games are especially suited for mixed play with adults and children.

- Acquire
- Bohnanza
- Can't Stop

- Carcassonne
- Careers
- Civilization
- Cluedo (also known as Clue)
- El Grande
- Elfenland
- Euphrat und Tigris
- The Game of Life
- Java
- Kill Doctor Lucky
- Lost Cities
- Mine a million - Dig for minerals, transport to town and get rich...
- Pay Day
- Prendi e porta a casa
- Puerto Rico
- Rail Baron
- Settlers of Catan
- Scotland Yard
- Scrabble
- Seven Deadly Sins
- Super Quiz
- Tikal
- Torres

Modern Wargames

Accurate simulation of historical or hypothetical battles is an objective.

- Advanced Squad Leader
- Axis & Allies
- France 1940
- Third Reich

Games of physical skill

Coordination, finesse, or other physical skills are necessary.

- Caroms
- Crokinole
- Subbuteo

Children's games

The rules are easy to learn and the outcome mostly or entirely due to chance.

- Candy Land
- Snakes and ladders
- Ludo
- Sorry

Literature

- The Boardgame Book, USA 1983, Exeter Books
- Sackson, Sid. *A Gamut of Games*. ISBN 0-486-27347-4
- Schmittberger, R. Wayne. *New Rules for Classic Games*. ISBN 0-471-53621-0

History

Origins | Early Literature | Europe | Tournaments | Cox-Forbes Theory | Shahnama Theory | Chess Related Names | World Records

Origins of chess

The **origins of chess** is one of the most controversial areas of board gaming history. While it is generally thought that chess originated from India, the evidence for this theory is weak, although stronger than the evidence for most other theories.

The countries which, at one time or the other, have been associated with invention of chess have included China, India, Egypt, Greece, Assyria, Persia, Arabia, Ireland and Uzbekistan.

The earliest evidence for chess is the middle-Persian epic Karnamak-i-Artakhshatr-i-Papakan which mentioned the hero as being skilled at chess (more details at Chess in early literature), this work is dated with some reserve at 600 CE, the work could be as early as 260 CE and as late as 1000 CE. The earliest evidence which we can date with some certainty is in early arabic chess literature dating from the early 9th century.

Although no strong evidence exists, it is commonly speculated that the game entered Persia during the reign of Khusraw I Nûshîrwân (531-578CE).

Many of the early works on chess gave a legendary history of the invention of chess, often associating it with Nard (a game of the Tables variety like Backgammon) however only limited credence can be given to these. Even as early as the tenth century Zakaria Yahya commented on the chess myths, "It is said to have been played by Aristotle, by Yafet Ibn Nuh (Japhet son of Noah), by Sam ben Nuh (Shem), by Solomon for the loss of his son, and even by Adam when he grieved for Abel". In one case the invention of chess was attributed to Moses (by the rabbi Abraham ibn Ezra 1130 CE).

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1 Theories of the origin of chess

1.1 India
1.2 Ireland

Theories of the origin of chess

India

- Cox-Forbes theory - Chess orignated from four-handed chaturanga

- Shahnama theory - Chess a replacement for war.
- Educational theory - Chess designed to teach a prince tactics
- Son's death theory - Chess designed to explain a sons death to mother

Ireland

The main claim for Irish origin is the claim that 2 chess tables were bequested in the will of Cathair Mor who died in 153 CE. The Celtic game of *fidchell* is believed to be a battle game (as opposed to a hunt game like *tafl* or *brandub*) like chess, and possibly a descendant of the Roman game *ludus latrunculorum*.

Early Literature

Arabic Literature

One of the most common ways for chess historians to trace when the board game chess entered a country is to look at the literature of that country. Although due to the names associated with chess sometimes being used for more then one game (for instance Xiang-qi in China and Tables in England), the only certain reference to chess is often several hundred years later than uncertain earlier references.

The earliest dates for strong references include,

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1 Byzantium

2 China

3 England

4 France

5 Germany

6 India

7 Italy

8 Persia

9 Spain

10 Sumatra

11 Switzerland

12 References

Byzantium

a. 923 AD - at-Tabari's **Kitab akhbar ar-rusul wal-muluk** (note the work is an arabic work, no early greek works are known)

China

c. 900 AD - **Huan Kwai Lu** ('Book of Marvels')

England

c. 1180 AD - Alexander Neckam's **De Natura Rerum** (note that it is thought that Neckam may have learnt of chess in Italy, not in England)

France

a. 1127 AD - A song of Guilhem IX Count of Poitiers and Duke of Aquitaine.

Germany

c. 1030 AD - **Ruodlieb**

India

1148 AD - Kalhana's **Rajatarangini** (translated by MA Stein, 1900)

The King, though he had taken two kings (Lothana and Vigraharaja) was helpless and perplexed about the attack on the remaining one, just as a player of chess (who has taken two Kings and is perplexed about taking a third).

(note this refers to the old four-handed chess sometime known as chaturagi).

Italy

c. 1062 AD - Letter from Petrus Damiani (Cardinal Bishop of Ostia) to the Pope-elect Alexander II and the Archdeacon Hildebrand.

Persia

c. 600 AD - **Karnamak-i-Artakhshatr-i-Papakan**

Artakhshir did this, and by God's help he became doughtier and more skilled than them all in ball-play, in horsemanship, in chess, in hunting and in all other accomplishments.

(It is fairly certain chess is meant due to the word chatrang being used).

Spain

c. 1009 AD - castrensian will of Ermengaud I (Count of Urgel)

I order you, my executors, to give . . . these my chessmen to the convent of St. Giles, for the work of the church.

Sumatra

c. 1620 AD - **Sejarah Malayu**

Now this Tan Bahra was a very skillful chessplayer, and one that was unequalled at the game in that age, and he played at chess with the men of Malacca.

Switzerland

c. 1000 AD - Manuscript 319 at Stiftsbibliothek Einsiedeln.

References

- HJR Murray, *A History of Chess*, (Oxford University Press)
- Helena M. Gamer, *The Earliest Evidence of Chess in Western Literature: The Einsiedeln Verses*, Speculum, Vol. 29, No. 4. (October 1954), pp. 734-750.

Early Arabic chess literature

With the sole exception of two works in Middle Persian (the Karnamak and the Chatranj Namak) all of the early works (pre-1000 CE) on chess were written by Arabic authors. At this point in the origins of chess the rules were those of Shatranj.

During the golden age of Arabic, many works on chess were written, recording for the first time the analysis of opening games, chess problems, the knight's tour, and many more subjects common in modern chess books. Many of these are missing; while we have firm evidence of their existence, no copies are known to have survived.

The earliest listing of works on chess is in the *Kitab al-fihrist*, a general bibliography produced in 377 AH (988 CE) by ibn Ishaq an-Nadim. It includes an entire section on the topic of chess, listing:

- Al-Adli's *Kitab ash-shatranj* ('Book of chess')
- Ar-Razi's *Latif fi'sh-shatranj* ('Elegance in chess')
- As-Suli's *Kitab ash-shatranj* (two volumes)
- Al-Lajlaj's *Kitab mansubat ash-shatranj* ('Book of chess-positions or problems')
- B. Aliqlidisi's *Kitab majmu'fi mansubat ash-shatranj* ('Collection of chess problems')

(list based upon translation by Harold Murray)

There is a passage referring to chess in a work said to be by Hasan, a philosopher from Basra who died in 728 CE; however the attribution of authorship is dubious.

Chess in Europe

The exact location, time and method of the entry of **chess** into western **Europe** is unknown, however linguistic evidence suggest that it was almost certainly obtained from the Arabs.

However the earliest western evidence of chess is dated to the eleventh century at the very earliest, still a signifcant time after the arabs themselves had discovered chess. Given that prior to eleventh century the arabs had substantial settlements in Spain, France and Italy knowing that our version of chess came from the arabs has not helped in identifying the entry point.

Philogical evidence points to an earlier date than archeological and literary evidence currently suggests, indicating that the game entered Europe perhaps as early as 900 AD.

See also

- Chess in early literature.

References

- HJR Murray, *A History of Chess*, (Oxford University Press)
- Helena M. Gamer, *The Earliest Evidence of Chess in Western Literature: The Einsiedeln Verses*, Speculum, Vol. 29, No. 4. (October 1954), pp. 734-750.

Chess tournament history

The **chess** **tournament history** definitely shows the monopoly which the Russians have on the first place.

Chess Olympiads (a.k.a. World Team Championships)

Bled 2002 - 1st Russia 38.5 2nd Hungary 37.5 3rd Armenia 35
Istanbul 2000 - 1st Russia 38 2nd Germany 37 3rd Ukraine 35.5
Elista 1998 - 1st Russia 35.5 2nd USA 34.5 3rd Ukraine 32.5
Yerevan 1996 - 1st Russia 38.5 2nd Ukraine 35 3rd USA 34
Moscow 1994 - 1st Russia 37.5 2nd Bosnia/Herz' 35 3rd Russia II 34.5
Manila 1992 - 1st Russia 39 2nd Uzbekistan 35 3rd Armenia 34.5
Novi Sad 1990 - 1st USSR 39 2nd USA 35.5 3rd England 35.5
Thessaloniki 1988 - 1st USSR 40.5 2nd England 34.5 3rd Netherlands 34.5
Dubai 1986 - 1st USSR 40 2nd England 39 3rd USA 38
Thessaloniki 1984 - 1st USSR 41 2nd England 37 3rd USA 35
Luzern 1982 - 1st USSR 39 2nd CSSR 39 3rd USA 35
Valletta 1980 - 1st USSR 39 2nd Hungary 39 3rd USA 35
Buenos Aires 1978 - 1st Hungary 37 2nd USSR 36 3rd USA 35
Haifa 1976 - 1st USA 37 2nd Netherlands 36.5 3rd England 35.5
(note: USSR and others did not compete in 1976 for political reasons)
Nice 1974 - 1st USSR 46 2nd Yugoslavia 37.5 3rd USA 36.5
Skopje 1972 - 1st USSR 42 2nd Hungary 40.5 3rd Yugoslavia 38
Siegen 1970 - 1st USSR 27.5 2nd Hungary 26.5 3rd Yugoslavia 26
Lugano 1968 - 1st USSR 39.5 2nd Yugoslavia 31 3rd Bulgaria 30
Havana 1966 - 1st USSR 39.5 2nd USA 34.5 3rd Hungary 33.5
Tel Aviv 1964 - 1st USSR 36.5 2nd Yugoslavia 32 3rd W Germany 30.5
Varna 1962 - 1st USSR 31.5 2nd Yugoslavia 28 3rd Argentina 26
Leipzig 1960 - 1st USSR 34 2nd USA 29 3rd Yugoslavia 27
Munich 1958 - 1st USSR 34.5 2nd Yugoslavia 29 3rd Argentina 25.5
Moscow 1956 - 1st USSR 31 2nd Yugoslavia 26.5 3rd Hungary 26.5
Amsterdam 1954 - 1st USSR 34 2nd Argentina 27 3rd Yugoslavia 26.5
Helsinki 1952 - 1st USSR 21 2nd Argentina 19.5 3rd Yugoslavia 19
Dubrovnik 1950 - 1st Yugo'via 45.5 2nd Argentina 43.5 3rd W Germany 40.5
Buenos Aires 1939 - 1st Germany 36 2nd Poland 35.5 3rd Estonia 33.5
Stockholm 1937 - 1st USA 54.5 2nd Hungary 48.5 3rd Poland 47
Warsaw 1935 - 1st USA 54 2nd Sweden 52.5 3rd Poland 52
Folkestone 1933 - 1st USA 39 2nd Czechoslovakia 37.5 3rd Poland 34
Prague 1931 - 1st USA 48 2nd Poland 47 3rd Czechoslovakia 46.5
Hamburg 1930 - 1st Poland 48.5 2nd Hungary 47 3rd Germany 44.5
The Hague 1928 - 1st Hungary 44 2nd USA 39.5 3rd Poland 57
London 1927 - 1st Hungary 40 2nd Denmark 38.5 3rd England 36.5

Cox-Forbes theory

The **Cox-Forbes theory** is a theory on the evolution of chess put forward by Captain Hiram Cox and extended by Professor Duncan Forbes.

The theory states that a four-handed dice-chess game was played in India in approximately 3000 BC; due to the results of certain rules or the difficulty in getting enough players the game evolved into a two-handed game. Due to religious and legal objections to gambling the dice were dropped from the game, making it a game purely of skill.

The theory was mostly based on evidence in the Indian text Purana, but more recent study of the work has shown the evidence to be weaker than previously thought. Also the work is now assigned a more conservative date of 500 BC rather than the earlier 3000 BC. As a result the theory is now rejected by most chess historians.

Shahnama theory

The **Shahnama theory** is a story occurring in the epic Shahnama relating to the invention of chess.

The story relates that a very powerful King of India named Kaid, satiated with war, and having no enemies without, or rebellious subjects within his kingdom, thus addressed his minister Sassa.

"Day and night my mind is harassed with the thoughts of war and strife; when in the hours of the night sleep overpowers me, I dream of nothing but battlefields and conquests, and in the morning, when I awake, I still think over my imaginary combats and victories. Now you are well aware that I have no longer one single enemy or rebel in my whole dominions with whom to contend. It is utterly repugnant to justice and common sense, to go to war without any cause. If I were to do so God would be displeased with me, and a severe retribution for my evil deeds would soon overtake me, even in this world, for is it not said that a kingdom governed by falsehood and oppression is void of stability, and it will soon pass away. Tell me, then, O Sassa, for great is thy wisdom, what am I to do in order to regain my peace of mind, and obtain relief from my present state of weariness and disgust?"

Sassa hereupon bethought himself of a rare game, the invention of an ancient Grecian sage, by name Hermes, which had recently been introduced into India by Alexander and his soldiers, who used to play it at times of leisure. Sassa procured and modified the game and board from 56 pieces and 112 squares to 32 pieces and 64 squares, and explained it to the king, who practised it with both satisfaction and delight, Sassa's stipulation of a reward of a grain of corn doubled again and again 64 times, which was at first deemed ridiculous, was found to amount to 18,446,744,073,709,551,615.

(Adapted from Henry Bird's Chess History and Reminiscences)

Famous entities with chess related names

People

- Shah Rukh - Name of several Moghul princes, named after the shah-rukh fork. (A fork of King and Rook).

Cities

- Shahrukhiya - Legendary city built on the river Jaxartes by the emperor Timur. The city is thought to be at the location Fanakant.

Other

- Exchequer - UK revenue department, as in Chancellor of the Exchequer, the word literally means "chessboard".
- Cheque - Form of monetary tranfer, named after the chess declaration of "Check" .

World records in chess

Some World records in the game of chess (as played in serious tournaments):

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1 Longest game

2 Shortest tournament game

3 Latest first capture

4 Longest decisive game without a capture

Longest game

The longest tournament chess game ever to be played under modern time rules was Nikolic - Arsovic, Belgrade 1989, which lasted for 20 hours and 15 minutes with a 269 move draw.

Shortest tournament game

The shortest decisive game ever played in a tournament is often considered to be Djordjeic - Kovacevic, Bela Crkva 1984. It lasted for only 3 moves (1.d4 Nf6 2.Bg5 c6 3.e3 Qa5+ winning the bishop).

There have been a number of forfeited games (which could technically be regarded as a loss in zero moves - the most notable example is game two of the 1972 World Championship match between Boris Spassky and Bobby Fischer, which Fischer defaulted), and a number of shorter frivolous examples (a game between Fischer and Oscar Panno, for example, went 1. d4 d5 2.c4 resigns - Panno's resignation is more a sign of his unwillingness to play than any reflection of the position on the board).

Latest first capture

The game between Filipowicz and Smederavac, Polanica Zdroj 1966, lasted 70 moves without a single capture. The game ended as a draw.

Longest decisive game without a capture

Nuber - Keckeisen, Mengen 1994 lasted 31 moves without a single capture. In the end Keckeisen resigned.

Famous Games

Immortal Game | Evergreen Game | Opera Game | Game of The Century | Deep Blue - 1996

Immortal game

Introduction

The immortal game is a famous chess game played in 1851 by Adolf Anderssen and Lionel Kieseritzsky. It is one of the most famous chess games of all time.

Adolf Anderssen was one of the strongest players of his time, and was considered by many to be the world champion after winning the 1851 London tournament. Lionel Kieseritzky lived in France much of his life, where he gave chess lessons or played games for 5 francs an hour at the Cafe de la Regence, Paris, France. Kieseritzky was well-known for being able to beat lesser players in spite of great odds.

This was an informal game played between these two great players at the Simpon's on the Strand Divan in London. Kieseritsky was very impressed when the game was over, and telegraphed the game moves to his Parisian chess club. The French chess magazine "La Regence" published the game in July 1851. This game was later nicknamed "The Immortal Game" in 1855 by the Australian Ernst Falkbeer.

The immortal game has resurfaced in many unusual guises. The town of Marostica, Italy has replayed the immortal game with living persons every year, beginning on September 2, 1923. The position after the 20th move is on a 1984 stamp from Surinam. The final part of the game was used as an inspiration for the chess game in the movie *Blade Runner* in 1982, though the chessboards are not arranged exactly the same (in fact, in the movie Sebastian's and Tyrell's board do not even match each other).

This game is an excellent demonstration of the style of chess play in the 1800s, where rapid development and attack were considered the most effective way to win, where many gambits and counter-gambits were offered (and not accepting them would be considered slightly ungentlemanly), and where material was often held in contempt. These games, with their rapid attacks and counter-attacks, are quite fun to review, even if the some of the moves would no longer be considered the best ones by today's standards.

In this game, Anderssen demonstrates amazing cleverness - he sacrifices a bishop on move 11, then sacrifices both rooks starting on move 18, and wraps it up with a queen sacrifice on move 22 to produce checkmate. Anderssen later demonstrated the same kind of extraordinary cleverness in the evergreen game.

The game is given below in algebraic chess notation. Note that some published versions of the game have errors, as described in the annotations.

Annotated moves of the game

1. e4 e5 2. f4

This is the King's Gambit: Anderssen offers his pawn in exchange for faster development.

2...exf4

Kieseritsky accepts the gambit; this variant is thus called the King's Gambit Accepted. This was a common opening in the 1800s; it's less common today, as black is often able to eventually equalize development, so white will be down in material.

3. Bc4 Qh4+

Kieseritsky's move will force Anderssen to move his king and Anderssen will not be able to castle, but this move also places Kieseritsky's queen in peril, and Kieseritsky will have to waste time to protect it.

John Savard's commentary claims that the moves were actually: 3.... b5 4. Bxb5 Qh4+ 5. Kg1 with the moves afterwards the same. These are transposed positions, with the final resulting position the same. However, no other work claims this is correct, so this is unlikely to be correct.

4. Kf1 b5?

This is the Bryan gambit, named after Thomas Jefferson Bryan. It's not considered a sound move by most players today.

5. Bxb5 Nf6 6. Nf3

This is a common developing move, but the knight now attacks black's queen, forcing black to protect it instead of developing his own side.

6...Qh6 7. d3

With this move, white now has solidified control over the critical center of the board. German grandmaster Robert Huebner recommends 7. Nc3 instead.

7...Nh5

This move does threaten Ng3+, and it protects the pawn at f4, but it also sidelines the knight to a poor position at the edge of the board - where knights are the least powerful.

8. Nh4 Qg5

John Savard claims this is 8.... c6, but this is an error in Savard's documentation.

9. Nf5 c6

This simultaneously unpins the queen pawn and attacks the bishop. However, some have suggested 9.... g6 would be better, to deal with a very troublesome knight.

10. g4 Nf6 11. Rg1!

This is a clever piece sacrifice. If black accepts, his queen will be moved away from the action, giving white a lead in development.

11.... cxb5?

Huebner believes this was the critical mistake; this gains material, but loses in development, at a point where white's strong development is able to quickly mount an offensive. Huebner recommends 11. ...h5 instead.

12. h4!

A clever move. White's knight at f5 protects the pawn, which is attacking black's queen.

12...Qg6 13. h5 Qg5 14. Qf3

Anderssen now has two threats:

- Bxf4, which will snatch black's queen (the queen has no safe place to go),
- e5, which would attack black's knight at f6 while simultaneously exposing an attack by white's queen on the unprotected black rook at a8.

14...Ng8

This deals with the threats, but undevelops black even further - now the only black piece not on its starting square is the queen, which is about to be put on the run, while white has control over an immense amount of the board.

15. Bxf4 Qf6 16. Nc3 Bc5

An ordinary developing move by black, which also attacks the rook at g1.

17. Nd5

Anderssen responds to the attack with a counter-attack. This move threatens Nc7, which would fork the king and rook. Richard Reti recommends 17. d4 ... 18. Nd5, which results in an advantage for white.

17...Qxb2

Black gains a pawn, and threatens to gain the rook at a1 with check.

18. Bd6!!

This is an amazingly clever sacrifice - white offers to sacrifice both his rooks! However, there is controversy about this move. Huebner comments that, from this position, there are actually many ways to win, and he believes there are at least 3 better moves than Bd6: d4, Be3, or Re1, which lead to strong positions or checkmate without needing to sacrifice so much material. However, Grandmaster Garry Kasparov has pointed out that the world of chess would have lost one of its "crown jewels" if the game had continued in such an unspectacular fashion. This particular move is quite striking because white is willing to give up so much material.

18... Bxg1?

This is a mistake, resulting in the loss of the game as the next moves show. Steinitz suggested in 1879 that a better move would be 18... Qxa1+; likely moves to follow are 19. Ke2 Qb2 20. Kd2 Bxg1.

Note that "The Mammoth Book of the World's Greatest Chess Games" has a mistake at this point; move 18 black through move 20 black inclusive are different. "Mammoth" records the moves as: 18... Qxa1+ 19. Ke2 Bxg1 20. e5 Na6 21. Nxg7+ Kd8 22. Qf6+!! Nxf6 Be7# 1-0 However, it seems to be quite alone in this claim; other resources including Eade's book and the Chesslive Online Database give the moves listed here. Nor does "Mammoth" explain why it has a different move sequence than other works. The commentary here presumes that "Mammoth" is in error at this point. Note that this is a reordering of the moves, and the positions become the same again at the end of move 20.

19. e5!

This sacrifices yet another white rook. More importantly, this move prevents the black queen from protecting black's g7 pawn - in fact, the black queen won't be able to easily return to defend black's king at all. It sets up a dangerous possible attack, 20. Nxg7+ Kd8 21. Bc7#.

19...Qxa1+ 20. Ke2

At this point, black's attack has run out of power; black has a queen and bishop on the back row, but can't effectively mount an immediate attack on white, while white can storm forward. According to Bill Wall, Kieseritzky resigned at this point. Huebner notes that an article by Friedrich Amelung in the journal Baltische Schachblaetter, 1893, reported that Kiesertizky probably played 20... Na6, but Anderssen then announced the mating moves. In any case, it's suspected that the last few moves were not actually played on the board in the original game.

20...Na6

This move was probably made to counter 21. Nc7, which would fork the black king and rook, and it prevents the bishop from occupying c7 as part of a mating attack, but white has another dangerous attack available.

21. Nxg7+ Kd8 22. Qf6+

This is a queen sacrifice, on top of the earlier sacrifices of a bishop and both rooks, and black cannot avoid taking the queen.

22...Nxf6 23. Be7# 1-0

At the end, black is way ahead in material: a queen and two rooks ahead, plus the advantage of having both bishops, while having only one less pawn. But the material doesn't matter. White has been able to use his remaining pieces (just 2 knights and a bishop!) together to force mate.

References

- Burgess, Graham, John Nunn, and John Emms. The Mammoth Book of the World's Greatest Chess Games. 1998. New York: Carroll and Graf Publishers, Inc. ISBN 0-7867-0587-6. This detailed summary unfortunately has an error starting in move 18.
- Chernev, Irving. The Chess Companion. 1968. ISBN 0-671-20104-2.
- Eade, James. Chess for Dummies. 1996. Foster City, CA: IDG Books Worldwide, Inc. ISBN 0-7645-5003-9.
- Kavalek, Lubomir. Chess (newspaper column). Washington Post. July 2003.

Evergreen game

The evergreen game is the name of a famous chess game was played in 1852 by Adolf Anderssen and Jean Dufresne.

Adolf Anderssen was one of the stongest players of his time, and was considered by many to be the world champion after winning the 1851 London tournament. Jean Dufresne was popular author of chess books, and did manage to win a few games against masters.

This was an informal game, like the "immortal game". Grandmaster Wilhelm Steinitz later identified the game as being the "evergreen in Anderssen's laurel wr[e]ath", giving this game its name.

The game is recorded below in algebraic notation.

1. e4 e5 2. Nf3 Nc6 3. Bc4 Bc5 4. b4

This is the "Evans Gambit", a favorite opening in the 1800s and still used today. White gives up material to gain an advantage in development.

4...Bxb4 5. c3 Ba5 6. d4 exd4 7. O-O d3?!

This isn't considered by many to be a good response; alternatives include dxc3 or d6.

8. Qb3!?

This immediately attacks, in particular the f7 pawn, but Burgess suggests Re1 instead.

8.... Qf6 9. e5 Qg6

The e5 pawn can't be captured right now; if 9... Nxe5, then 10. Re1 d6 11. Qb5+ at which point black has lost a piece.

10. Re1! Nge7 11. Ba3 b5?!

Instead of defending, this is a counter-sacrifice. This is a bad idea, since white has a better strategic position. Burgess suggests instead ...a6, to allow the b-pawn to advance later.

12. Qxb5 Rb8 13. Qa4 Bb6

Black cannot play 0-0 here, because 14. Bxe7 would overwhelm the knight on c6.}

14. Nbd2 Bb7 15. Ne4 Qf5? 16. Bxd3 Qh5 17. Nf6+!?

This is a beautiful sacrifice. Burgess notes that 17. Ng3 Qh6 18. Bc1 Qe6 19. Bc4 wins material in a much simpler way.

17.... gxf6 18. exf6 Rg8 19. Rad1! 19.... Qxf3

The black queen can just dangle on f3, because the rook on g8 pins the white pawn on g2.

20. Rxe7+! 20.... Nxe7? 21. Qxd7+!! Kxd7 22. Bf5+

A double-check, which is almost always dangerous. It's certainly dangerous in this case.

22.... Ke8 23. Bd7+ Kf8 24. Bxe7# 1-0

References

- Burgess, Graham, John Nunn, and John Emms. The Mammoth Book of the World's Greatest Chess Games. 1998. New York: Carroll and Graf Publishers, Inc. ISBN 0-7867-0587-6.

- Eade, James. Chess for Dummies. 1996. Foster City, CA: IDG Books Worldwide, Inc. ISBN 0-7645-5003-9.
- Wheeler, David A.

Opera game

The **Opera Game** is a famous chess game played in 1858 between an American Paul Morphy and a German and French aristocrat (Karl, Duke of Brunswick and Count Isouard), playing together.

The Frenchmen invited Morphy to the Paris Opera, then asking him to join them in a chess game. The Duke and the Count (playing black) were allowed to consult each other during play.

The game has been much reproduced in the years since it was played and is often used by chess teachers to demonstrate the importance of rapidly developing one's pieces. It is given here in algebraic notation.

1. e4 e5 2. Nf3 d6

This is Philidor's Defense.

3. d4 Bg4

3...exd4 is more normal. 3...f5 is a more aggressive alternative.

4. dxe5 Bxf3

If ... dxe5, then 5. Qxd8 Kxd8 and Black has lost the right to castle.

5. Qxf3 dxe5 6. Bc4 Nf6 7. Qb3 Qe7 8. Nc3

White prefers fast development to material.

8. ... c6 9. Bg5 b5 10. Nxb5!

Morphy chooses not to retreat the bishop, which would allow Black to gain time for development.

10. ... cxb5 11. Bxb5+ Nbd7 12. 0-0-0

The combination of the bishop's pin on the knight and the open file for the rook will lead to Black's defeat.

12. ... Rd8 13. Rxd7 Rxd7 14. Rd1 Qe6

Compare the activity of the White pieces with the idleness of the Black pieces.

15. Bxd7+ Nxd7

If ... Qxd7, then 16. Qb8+ Ke7 17. Qxe5+ Kd8 18. Bxf6+ gxf6 19. Qxf6+ Kc8 20. Rxd7 Kxd7 21. Qxh8 and White is clearly winning.

16. Qb8+! Nxb8 17. Rd8#

The Game of the Century

The Game of The Century refers to a chess game played between chessmaster Donald Byrne and 13-year old Bobby Fischer in the Rosenwald Memorial Tournament in New York on October 17, 1956. It was nicknamed "The Game of the Century" by Hans Kmoch in *Chess Review*.

In this game, Fischer (playing black) demonstrates brilliance, innovation, improvisation and poetry. Byrne (playing white), after a standard opening, makes a minor mistake on move 11, moving the same piece twice (wasting time). Fischer pounces, with strong sacrificial play, culminating in an incredible queen sacrifice on move 17. Byrne captures the queen, but Fischer more than compensates by taking many other pieces. The ending is an excellent demonstration of pieces working together to achieve a checkmate.

Burgess suggests 3 lessons to be learned from this game, which can be summarized as follows:

- In general, don't waste time by moving the same piece twice in an opening; get your other pieces developed first.
- Material sacrifices are likely to be effective if your opponent's king is still in the middle and a central file is open.
- Even at 13, Fischer was a player to be reckoned with.

Donald Byrne (1930-1976), by the time of this game, had already obtained first place in the 1953 US Open Championship, and would eventually represent the United States in three Olympiads (1962, 1964, and 1968). Robert "Bobby" Fischer (1943-) eventually became world champion in 1972.

The game is given here in algebraic notation:

1. Nf3

A noncommittal move. From here, the game can develop into a number of different openings.

1. ... Nf6 2. c4 g6 3. Nc3 Bg7

Fischer has opted for a defense based on "hypermodern" principles: he's inviting Byrne to establish a classical pawn stronghold in the center, which Fischer hopes to undermine and transform into a target. Fischer has fianchettoed his bishop, so it can attack the a1-h8 diagonal including its center squares.

4. d4 O-O

Fischer castles, concentrating on protecting his king immediately.

5. Bf4 d5

This introduces the Grünfeld Defence, an opening usually brought about with the opening moves 1.d4 Nf6 2.c4 g6 3.Nc3 d5.

6. Qb3

The so-called Russian System, putting pressure on Fischer's central d5 pawn.

6. ...dxc4

Fischer relinquishes his centre, but draws Byrne's queen to a square where it is a little exposed and can be attacked.

7. Qxc4 c6 8. e4 Nbd7 9. Rd1 Nb6 10. Qc5 Bg4

At this point, Byrne's pieces are more developed, and he controls the center squares. However, Fischer's king is well-protected, while Byrne's king is not.

11. Bg5?

Here Byrne makes a mistake - he moves the same piece twice, losing time, instead of developing in some way. Both [Burgess, Nunn and Emms] and [Wade and O'Connell] suggest 11. Be2; this would protect the King and enable a later kingside castle. For example, the game Flear-Morris, Dublin 1991, continued 11. Be2 Nfd7 12. Qa3 Bxf3 13. Bxf3 e5 14. dxe5 Qe8 15. Be2 Nxe5 16. O-O and white is better.

11. ... Na4!!

Here Fischer cleverly offers up his Knight, but if Byrne takes it with Nxa4 Fischer will play Nxe4, and Byrne then suddenly has some terrible choices:

13. Qxe7 Qa5+ 14. b4 Qxa4 15. Qxe4 Rfe8 16. Be7 Bxf3 17. gxf3 Bf8 produces a terrible pin.

13. Bxe7 Nxc5 14. Bxd8 Nxa4 15. Bg5 Bxf3 16. gxf3 Nxb2 gives Fischer an extra pawn and ruin's Byrne's pawn structure.

13. Qc1 Qa5+ Nc3 Bxf3 15.gxf3 Nxg5 gives Fischer back his piece and a better position.

12. Qa3 Nxc3 13. bxc3 Nxe4!

Fischer offers to Byrne material, in exchange for a much better position that is especially dangerous to white: an open e-file, with white's king poorly protected.

14. Bxe7

Byrne wisely decides to decline the offered material.

14. ... Qb6 15. Bc4 Nxc3! 16. Bc5 Rfe8+ 17. Kf1 Be6!!

This is a very clever move by Fischer; this is the move that made this game famous. Instead of trying to protect his queen, Fischer viciously counter-attacks using his bishop and sacrifices his queen. Byrne cannot simply take the bishop, because that will lead to checkmate:

18. Bxe6 Qb5+ 19. Kg1 Ne2+ 20. Kf1 Ng3+ 21. Kg1 Qf1+ 22. Rxf1 Ne2#

18. Bxb6

Byrne takes Fischer's offered queen, which leads to a massive loss of material, but other moves are no better. For example, 18.Bxe6 leads to a forced smothered mate with 18...Qb5+ 19.Kg1 Ne2+ 20.Kf1 Ng3+ 21.Kg1 Qf1+ 22.Rxf1 Ne2#.

18. ... Bxc4+

Fischer now begins a series of discovered checks, picking up material.

19. Kg1 Ne2+ 20. Kf1 Nxd4+ 21. Kg1 Ne2+ 22. Kf1 Nc3+ 23. Kg1 axb6

This move by Fischer takes time out to capture a piece, but it doesn't waste time because it also threatens Byrne's queen. Byrne's queen cannot take the knight on c3, because it's protected by Fischer's bishop on g7.

24. Qb4 Ra4

Fischer uses his pieces together nicely in concert; the knight on c3 protects the rook on a4, which in turn protects the bishop on c4. This forces Byrne's queen away.

25. Qxb6

Byrne's queen picks up a pawn, but it's now poorly placed.

25. ... Nxd1

Fischer has taken a rook, 2 bishops, and a pawn as compensation for his queen; in short, Fischer has gained significantly more material than he's lost. In addition, Byrne's remaining

rook is stuck on h1 and it will take precious time to free it, giving Fischer opportunity to set up another offensive. White has the only remaining queen, but this will not be enough.

26. h3 Rxa2 27. Kh2 Nxf2 28. Re1 Rxe1 29. Qd8+ Bf8 30. Nxe1 Bd5 31. Nf3 Ne4 32. Qb8 b5 33. h4 h5 34. Ne5 Kg7

Fischer breaks the pin, allowing the bishop to attack as well.

35. Kg1 Bc5+

Now Fischer "peels away" the white king from his last defender, and begins a series of checks that culminate in checkmate. This series of moves is extremely interesting in the way Fischer shows how to use various pieces together to force a checkmate.

36. Kf1 Ng3+

Adjacent bishops can, without opposition, simply move next to each other to force the king along. However, Fischer can't do this here and simply move his light-square bishop to c4, because Byrne's knight protects c4. However, the knight does the job, forcing Byrne's king along.

37. Ke1 Bb4+ 38. Kd1 Bb3+ 39. Kc1 Ne2+ 40. Kb1 Nc3+ 41. Kc1 Rc2# 0-1

References

- Burgess, Graham, John Nunn, and John Emms. "The Mammoth Book of The World's Greatest Chess Games." 1998. ISBN 0-7867-0587-6. pp. 213-216.
- Eade, James. "Chess for Dummies". NY, NY: IDG Books. 1996. ISBN 0-7645-5003-9.
- Wade, Robert G. and Kevin J. O'Connell. "Bobby Fischer's Chess Games". 1972. ISBN 0-385-08627-X. pp. 110-113 (game 179).

Deep Blue - Kasparov, 1996, Game 1

Deep Blue - Kasparov, 1996, Game 1 is a world-famous chess game. This is the first game won by a chess-playing computer against a reigning world champion under normal chess tournament conditions (in particular, normal time controls).

Deep Blue was a computer developed by IBM to win against Gary Kasparov. Deep Blue won this game, but Kasparov rebounded over the following 5 games to win 3 and draw 2, soundly beating Deep Blue in the 1996 match. In the 1997 rematch, Deep Blue managed to win the entire match.

Gary Kasparov is widely considered to be one of the greatest chess players.

Game Moves

The game is described below using Portable Game Notation.

[Event ""]
[Site "Philadelphia, PA USA"]
[Date "1996.02.10"]
[Round "1"]
[White "Deep Blue"]
[Black "Kasparov, Gary"]
[Result "1-0"]
[Opening "Sicilian Defense 2.c3"]
[Annotator "Wheeler, David A."]

1. e4 c5
2. c3
{It's more common to play 2. Nf3, but Kasparov has deep experience with that line, so white's opening book goes in a different direction.}

2..... d5
3. exd5 Qxd5
4. d4 Nf6
5. Nf3 Bg4
6. Be2 e6
7. h3 Bh5
8. O-O Nc6
9. Be3 cxd4
10. cxd4 Bb4
{A more common move here is Be7. This was a new approach by Kasparov, developing the bishop in an unusual way. Whether or not it's a good approach is debated. After this move, the computer left its opening book and began calculating its next move.}

11. a3 Ba5
12. Nc3 Qd6
13. Nb5 Qe7?!
{This allows white to make its pieces more active.
Other moves, which would probably be better, include Qb8 and Qd5.}

14. Ne5! Bxe2
15. Qxe2 O-O
16. Rac1 Rac8
17. Bg5
{Black now has a problem, especially with the pinned knight on f6.}

17.... Bb6
18. Bxf6 gxf6
{Kasparov avoids ... Qxf6? because white would gain material with 19. Nd7.
Note that Kasparov's king is now far more exposed.}

19. Nc4! Rfd8
20. Nxb6! axb6
21. Rfd1 f5
22. Qe3!
{This is an excellent place for the white queen.}

22... Qf6
23. d5!
{Kasparov commented that he might have offered this pawn
sacrifice himself in this position, since it hurt black's pawn
structure, opened up the board, and black's exposed king suggested
that there was probably a way to exploit the result.
Kasparov has been attacking the d4 pawn, and the computer wisely
decided to advance it for an attack instead of trying to defend it.}

23... Rxd5
24. Rxd5 exd5
25. b3! Kh8?
{Kasparov attempts to prepare a counter-attack, by preparing to
move his rook to file g, but it won't work.
Burgess suggests that 25.... Ne7 Rxc8+ would have better, though
white would still have some advantage.
Indeed, after this point on it's difficult to identify
any move that will dramatically help black.}

26. Qxb6 Rg8
27. Qc5 d4
28. Nd6 f4
29. Nxb7
{This is a very "computerish"/materialistic move; white is grabbing
an undeveloped pawn for a small gain in material.
However, the computer has not identified any threat of checkmate from
black, so it simply acquires the material.}

29.... Ne5
30. Qd5
{The move 30. Qxd4?? would be terrible, because Nf3+
would win the white queen.}

30.... f3
31. g3 Nd3
{The move 31... Qf4 won't work, because of 32. Rc8! Qg5 33. Rc5!}

32. Rc7 Re8
{Kasparov is attacking, but the computer has correctly determined that
the attack is not a real threat.}

33. Nd6 Re1+
34. Kh2 Nxf2
35. Nxf7+ Kg7
36. Ng5 Kh6
37. Rxh7+
{expecting .... Kg6 38. Qg8+ Kf5 Nxf3 and white's strength is overwhelming.
White will have lots of ways to defeat black, but black has no real
way to attack white.}
1-0

References

- Burgess, Graham, John Nunn, and John Emms. The Mammoth Book of the World's Greatest Chess Games. 1998. New York: Carroll and Graf Publishers, Inc. ISBN 0-7867-0587-6.

- Eade, James. Chess for Dummies. 1996. Foster City, CA: IDG Books Worldwide, Inc. ISBN 0-7645-5003-9.

Chess Players

Grandmasters | World Champions

List of chess players

From Wikipedia, the free encyclopedia.

This is a list of chess players. See also list of chess world championship matches.

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2 Female players

3 Famous people who were/are avid chess players

4 Also of note

Male players

- Michael Adams (England, 1971 -)
- Alexander Alekhine (Russia, 1892 - 1946)
- Viswanathan Anand (India, 1969 -)
- Adolf Anderssen (Germany, 1818 - 1879)
- Konstantin Aseev (Russia, 1960 -)
- As-Suli (Abbasid Caliphate, circa 880 - 946)
- Maurice Ashley (Jamaica, USA, 1966 -)
- Curt von Bardeleben (Germany, 1861 - 1924)
- Mikhail Botvinnik (Russia, 1911 - 1995)
- David Bronstein (Russia, 1924 -)
- José Raúl Capablanca (Cuba, 1888 - 1942)
- Max Euwe (Netherlands, 1901 - 1981)

- Bobby Fischer (USA, 1943 -)
- Boris Gelfand (Belarus, USSR, 1968 -)
- Efim Geller (Ukraine, USSR, 1925 - 1998)
- Vassily Ivanchuk (Ukraine, 1969 -)
- Sergey Ivanov (Russia, 1960 -)
- Anatoly Karpov (Russia, 1951 -)
- Garry Kasparov (Russia, 1963 -)
- Paul Keres (Estonia, 1916 - 1975)
- Alexander Khalifman (Russia, 1966 -)
- Viktor Korchnoi (Russia, Switzerland, 1931 -)
- Alexander Kotov (USSR, 1913 - 1981)
- Vladimir Kramnik (Russia, 1975 -)
- Bent Larsen (Denmark, 1935 -)
- Emanuel Lasker (Germany, USA, 1868 - 1941)
- Peter Leko (Hungary, 1979 -)
- Luke McShane (England, 1984 -)
- Tony Miles (England, 1955 - 2001)
- Alexander Morozevich (Russia, 1977 -)
- Paul Morphy (USA, 1837 - 1884)
- Aaron Nimzowitsch (Latvia, 1886 - 1935)
- Oscar Panno (Argentina, 1935 -)
- Bruno Parma (Slovenia, 1941 -)
- Tigran Petrosian (Georgia, USSR, 1929 - 1984)
- François-André Danican Philidor (France, 1726 - 1795)

- Harry Nelson Pillsbury (USA, 1872 - 1906)
- Vasja Pirc (Slovenia, 1907 - 1980)
- Ruslan Ponomariov (Ukraine, 1983 -)
- Valery Salov (Russia, 1964 -)
- Yasser Seirawan (Syria, USA, 1960 -)
- Alexei Shirov (Latvia, Spain, 1972 -)
- Nigel Short (England, 1965 -)
- Vasily Smyslov (Russia, 1921 -)
- Boris Spassky (Russia, France, 1937 -)
- Howard Staunton (England, 1810 - 1874)
- Wilhelm Steinitz (Bohemia, USA, 1836 - 1900)
- Mark Taimanov (Russia, 1926 -)
- Mikhail Tal (Latvia, USSR, 1936 - 1992)
- Siegbert Tarrasch (Germany, 1962 - 1934)
- Jan Timman (Netherlands, 1951 -)
- Veselin Topalov (Bulgaria, 1975 -)
- Milan Vidmar (Slovenia, 1885 - 1962)

Female players

- Elizaveta Ivanovna Bykova (Russia, 1913 - 1989)
- Zhu Chen (China, 1976 -)
- Maya Chiburdanidze (Georgia, USSR, 1961 -)
- Pia Cramling (Sweden, 1963 -)
- Nona Gaprindashvili (Georgia, USSR, 1941 -)
- Xie Jun (China, 1970 -)

- Irina Krush (Ukraine, USSR, USA, 1983 -)
- Vera Menchik-Stevenson (Czech Republic, England, 1906 - 1944)
- Judit Polgar (Hungary, 1976 -)
- Zsuzsa Polgar (Hungary, USA, 1969 -)
- Olga Rubtsova (Russia, 1909 -)
- Lyudmila Rudenko (Russia, 1904 - 1986)
- Alexandra Kosteniuk (Russia, 1984 -)

Famous people who were/are avid chess players

The people in this list are famous in other areas of activity, but are known to have played chess or maintain a current interest in chess.

- Woody Allen
- Humphrey Bogart
- Napoleon Bonaparte
- John Cage
- Catherine the Great
- Ray Charles
- Marcel Duchamp
- Benjamin Franklin
- Thomas Jefferson
- Stanley Kubrick
- Lennox Lewis
- Sergei Prokofiev (Russian composer & pianist)
- Juan Maria Solare (Argentine composer & pianist)
- Will Smith

- Sting
- Josip Broz Tito
- Leo Tolstoy
- George Washington
- John Wayne

Also of note

In 1997, the IBM chess playing computer Deep Blue was victorious in a match against then-world champion Garry Kasparov.

International Grandmaster

The title **International Grandmaster** is awarded to superb chess players by the world chess organization FIDE. It is a lifetime title, in chess literature usually abbreviated as GM or IGM (this is in contrast to *WGM* for Woman Grandmaster and *IM* for International Master).

Normally three favorable results (or *norms*) in tournaments involving other Grandmasters are required before FIDE will confer the title on a player. There are other milestones a player can achieve to get the title, such as qualifying for the Candidates tournament. The Candidates Tournaments, now defunct, were a series of tournaments whose winner earned the right to challenge the reigning world champion. Bobby Fischer got his Grandmaster title by qualifying for the 1959 Candidates Tournament, at the ripe old age of 15. In 2002, twelve year old Ukrainian Sergey Karjakin became the youngest Grandmaster ever.

Grandmasters normally have an Elo chess rating of over 2500. Players from 2400-2500 normally have acquired the International Master (IM) title.

The title "Grandmaster" was created by Russian Tsar Nicholas II who first awarded it in 1914 to five players (Lasker, Capablanca, Alekhine, Tarrasch and Marshall) after a tournament in Saint Petersburg which he had funded.

Some grandmasters:

- Viswanathan Anand
- Maurice Ashley
- Bobby Fischer
- Anatoly Karpov

- Garry Kasparov
- Vladimir Kramnik
- Viktor Korchnoi
- Vasja Pirc
- Judit Polgar
- Ruslan Ponomariov
- Michael Rohde
- Boris Spassky
- Mikhail Tal
- Jan Timman
- Milan Vidmar

See list of chess players for more.

World Champions

Junior

List of chess world championship matches

The following is a list of world chess championship matches. The winner of each match is listed first.

- 1866 Steinitz-Anderssen (+8 -6 =0)
- 1886 Steinitz-Zukertort (+10 -5 =1)
- 1889 Steinitz-Chigorin (+10 -6 =1)
- 1890/91 Steinitz-Gunsberg (+6 -4 =9)
- 1892 Steinitz-Chigorin (+10 -8 =5)
- 1894 Lasker-Steinitz(+10 -5 =4)
- 1896/97 Lasker-Steinitz(+10 -2 =5)

- 1907 Lasker-Marshall (+8 -0 =7)
- 1909 Lasker-Janowski (+7 -1 =2)
- 1910 Lasker-Schlechter (+1 -1 =8)
- 1910 Lasker-Janowski (+8 -0 =3)
- 1921 Capablanca-Lasker(+4 -0 =10)
- 1927 Alekhine-Capablanca(+6 -3 =25)
- 1929 Alekhine-Bogoljubow (+11 -5 =9)
- 1934 Alekhine-Bogoljubow (+8 -3 =15)
- 1935 Euwe-Alekhine (+9 -8 =13)
- 1937 Alekhine-Euwe (+10 -4 =11)
- 1948 Botvinnik (win tournament) (14/20, 5 participants, 5 games round robin)(FIDE)
- 1951 Botvinnik-Bronstein (+5 -5 =14) (FIDE)
- 1954 Botvinnik-Smyslov (+7 -7 =10) (FIDE)
- 1957 Smyslov-Botvinnik (+6 -3 =13) (FIDE)
- 1958 Botvinnik-Smyslov (+7 -5 =11) (FIDE)
- 1960 Tal-Botvinnik (+6 -2 =13) (FIDE)
- 1961 Botvinnik-Tal (+10 -5 =6) (FIDE)
- 1963 Petrosian-Botvinnik (+5 -2 =15) (FIDE)
- 1966 Petrosian-Spassky (+4 -3 =17) (FIDE)
- 1969 Spassky-Petrosian (+6 -4 =13) (FIDE)
- 1972 Fischer-Spassky (+7 -3 =11) (FIDE)
- 1975 Karpov-Fischer (by default) (FIDE)
- 1978 Karpov-Korchnoi (+6 -5 =21) (FIDE)
- 1981 Karpov-Korchnoi (+6 -2 =10) (FIDE)

- 1984 Karpov-Kasparov (+5 -3 =40) (FIDE)
- 1985 Kasparov-Karpov (+5 -3 =16) (FIDE)
- 1986 Kasparov-Karpov (+5 -4 =15) (FIDE)
- 1987 Kasparov-Karpov (+4 -4 =16) (FIDE)
- 1990 Kasparov-Karpov (+4 -3 =17) (FIDE)
- 1992 Fischer-Spassky (+10 -5 =15) (Independent)
- 1993 Karpov-Timman (+5 -2 =14) (FIDE)
- 1993 Kasparov-Short (+6 -1 =13) (PCA)
- 1995 Kasparov-Anand (+4 -1 =13) (PCA)
- 1998 Karpov-Anand (+2 -2 =2) (FIDE)
- 1999 Khalifman-Akopian (+2 -1 =3) (FIDE)
- 2000 Kramnik-Kasparov (+2 -0 =13) (Braingames)
- 2000 Anand-Shirov (+3 -0 =1) (FIDE)
- 2002 Ponomariov-Ivanchuk (+2 -0 =5) (FIDE)

Notes

1858 Morphy-Anderssen: After demolishing Loewenthal (+8 -3 =2), Morphy crushed Anderssen (+7 -2 =2) who was reduced to playing the infamous "Anderson opening" in the later half of the match (1. a3?). Anderssen was considered the best player in the world prior to this encounter. However, the match was not declared as any kind of World Championship match, and Morphy declined to play in the World Championship matches that followed.

1927 Alekhine-Capablanca: After winning this match in great style, Alekhine hand picked his opponents for all his future matches, and refused to play a rematch with Capablanca.

1948 World Championship Tournament: The death of Alekhine in 1946 left the World Champion title vacant. FIDE organised a tournament to determine the new champion (the body went on to organise every subsequent match until the 1990s). Mikhail Botvinnik, Vassily Smyslov, Samuel Reshevsky, Paul Keres and Max Euwe took part, with Botvinnik triumphing.

1951 Botvinnik-Bronstein, 1987 Kasparov-Karpov: FIDE originally used rules that stated that upon a tie, the previous WCC, if he was a candidate would retain the title.

1975 Karpov-Fischer: Fischer refused to play, insisting on different match scoring rules (declaring Fischer the winner if he achieved 9 wins before Karpov reached 10 wins, draws not counting.) Fischer declined to participate in a match held under the same conditions as the previous Fischer-Spassky match, and thus foreited the title to Karpov. For the following matches from 1978 to 1984, FIDE adopted Fischer's rule of discounting draws, but simply required the winner to achieve 6 wins.

1984 Karpov-Kasparov: This match was abandonded (Karpov did not win it, but did retain the title.) Kasparov was quickly down 4-0 in the first dozen games, then down 5-0 before winning his first. Then he won two out of the last three games, and the FIDE president simply halted the match. The 1985 rematch went back to the previous rules (defending WC needs to reach 12 points before challenger reaches 12.5 points, where draws are worth half a point to both players.)

1992 Fischer-Spassky: Although recognized by very few as a legitimate World Championship, it was billed as a World Championship rematch by Fischer and his hand picked opponent, Spassky. This match took place in Yugoslavia, while under strict santions. The US governement forbid Fischer to play in this country, but Fischer ignored this. Because of this, Fischer cannot return to the US.

1993 Karpov-Timman, Kasparov-Short: Both Karpov and Timman were soundly defeated in the candidates pre-matches by Nigel Short, who went on to play Kasparov in a match, but not under the auspices of FIDE. As a result, FIDE chose the two highest finishing remaining candidates, but excluded Yusupov by virtue of having been defeated by Timman in the quarter final match that already occurred in the same cycle.

1998 Karpov-Anand: After a tied match, the FIDE WCC was decided by a couple of rapid play tie breakers both won by Karpov. The match conditions heavily favored the defending champion Karpov over Anand, who was exhausted from the qualifying rounds. Later FIDE knockouts were altered to seed the defending champion into earlier rounds.

2000 Kramnik-Kasparov: Although defeated by Shirov in a candidates match earlier under another World Chess Championship sponsoring organization, Kramnik was hand picked by Kasparov, and was most likely the strongest player besides himself. Of course Kramnik proved to be more than Kasparov's equal by defeating him.

2002: Ponomariov-Ivanchuk: The 2002 FIDE WCC pre-tournament and final match has moved to a much faster time control which by many accounts (comments by Kasparov, and Ivanchuk among others) has significantly and noticeably reduced the quality of the games.

See also: list of chess players.

World Junior Chess Championship

Winner list:

- 2003 Mamedyarov, Shakhriyaz (Azerbaijan)
- 2002 Aronian, Lev (Armenia)
- 2001 Acs, Peter (Hungary)
- 2000 Bruzón, Lázaro (Cuba)
- 1999 Galkin, Alexander (Russia)
- 1998 Sadvakasov, Darmen (Kazakstan)
- 1997 Shaked, Tal (USA)
- 1996 Sutovskij, Emil (Israel)
- 1995 Slobodjan, Roman (Germany)
- 1994 Gretarsson, Helgi (Iceland)
- 1993 Miladinovic, Igor (Yugoslavia)
- 1992 Zarnicki, Pablo (Argentina)
- 1991 Akopian, Vladimir (Armenia)
- 1990 Gurevich, Ilya (USA)
- 1989 Spasov, Vasil (Bulgaria)
- 1988 Lautier, Joel (France)
- 1987 Anand, Viswanathan (India)
- 1986 Arencibia, Walter (Cuba)
- 1985 Dlugy, Maxim (USA)
- 1984 Hansen, Curt (Denmark)
- 1983 Georgiev, Kiril (Bulgaria)
- 1982 Sokolov, Andrei (USSR)
- 1981 Cvitan, Ognjen (Yugoslavia)

- 1980 Kasparov, Garry (USSR)
- 1979 Seirawan, Yasser (USA)
- 1978 Dolmatov, Sergei (USSR)
- 1977 Yusupov, Artur (USSR)
- 1976 Diesen, Mark (USA)
- 1975 Checkov, Valery (USSR)
- 1974 Miles, Anthony (England)
- 1973 Beliavsky, Alexander (USSR)
- 1971 Hug, Werner (Switzerland)
- 1969 Karpov, Anatoly (USSR)
- 1967 Kaplan, Julio (Puerto Rico)
- 1965 Kurajica, Bojan (Yugoslavia)
- 1963 Gheorghiu, Florin (Romania)
- 1961 Parma, Bruno (Yugoslavia)
- 1959 Bielicki, Carlos (Argentina)
- 1957 Lombardy, William (USA)
- 1955 Spassky, Boris (USSR)
- 1953 Panno, Oscar (Argentina)
- 1951 Ivkov, Borislav (Yugoslavia)

Chess Rules

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Rules of chess

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The Board

Chess is played on a square board, divided into 64 squares of alternating color (32 white, 32 black), upon which move 16 "light" and 16 "dark" pieces. Chess sets are usually either black and white, red and black, or white and green.

Sets used for play are commonly made of wood or plastic, although ornamental sets of stone, glass, or metal are often used to decorate homes. Likewise, the chessboards themselves can be made of wood, cardboard, leather, stone, glass, or any other material that the design can be placed on. Many times the board is also used in the game of checkers. Many travel boards fold into a box and the pieces fit inside.

The board is placed so that a light-colored square is in the right corner; a dark one in the left. Each player controls sixteen pieces: a king, a queen, two rooks, two bishops, two knights, and eight pawns. At the beginning of the game, the pieces are arranged as shown in the diagram to the left: the rooks are the pieces in the corners, next to them are the knights, then the bishops, and queen and king in the center, behind the eight pawns. Note that the White queen starts on a white square, and the Black queen starts on a black square.

Gameplay

Move Sequence

The "color" of each player is determined either by mutual agreement; or by random means. The player controlling the white pieces moves first, then the players alternate moves. While this arguably gives White an advantage, the advantage is generally seen as minor; it is not

believed that White can force a win, if Black is played properly. *Fritz 8*, having analyzed the opening position to a depth of "17", estimated that White has a "quarter-pawn" advantage.

Movement

Each piece moves in a different fashion, some pieces can move horizontally, some diagonally, others can "jump"; some pieces can move more than one square (in a single turn) -- others cannot; every piece has different rules regarding its movement. Pieces can also "capture" other pieces, thus removing them from the game. Two of the most commonly confused moves are: castling and en passant. In addition, under certain circumstances, a pawn can become a queen; via a process known as "queening".

If a player having the move touches one of his pieces he is under compulsion to move it; if he touches a hostile piece he must capture it, provided that the piece can be properly moved or captured in either case. This rule is of no effect if the piece so touched cannot be moved or captured, as the case may be. Castling is treated as a move of the King rather than a move of two pieces; the King must be touched before the Rook in order to perform Castling. If the Rook is touched first, then the Rook must be moved if possible. So long as the hand has not left the piece to be moved, the latter can be placed on any accessible square. If a player touches a piece with the sole object of adjusting its position, he must apprise his opponent of his intention by saying "J'adoube" beforehand.

If a player has castled illegally, Rook and King must be moved back, and the King must make another move, if there is a legal one. If not, any other move can be played. A player who makes an illegal move with a piece must retract that move, and make another one if possible with the same piece. If the mistake is only noticed later on, the game should be restarted from the position in which the error occurred.

Check, Checkmate

A player's king is never captured. When a player makes a move that threatens the opposing king with capture, the king is said to be *in check*, and the player with the move is required to immediately eliminate the threat by one of three means:

1. Move the king to a square not threatened;
2. Capture the threatening piece; or
3. Place a piece between the king and the threatening piece.

A player may never leave his king in check at the end of his move.

In informal games, it is customary to announce "check" when making a move that puts the opponent's king in check. In formal competitions, this is not only unnecessary but may be considered annoying or distracting.

If a player's king is placed in check, and there is no legal move that player can make to escape check, then the king is said to be *checkmated*, the game ends, and that player loses. The diagram to the right shows a typical checkmate position. The white king is under attack by the black queen; every square to which the king could move is also attacked; and he cannot capture the queen, because he would then be attacked by the rook.

Draws

The game ends in a draw on one of these conditions:

1. The player to move is not in check but has no legal move (This is called a *stalemate*, and such a position is shown in the diagram to the left.);

2. There is no possibility for either player to mate the opponent, because there are insufficient pieces remaining;

3. By agreement of the players.

Either player may claim a draw by indicating that one of the following conditions exists:

1. Fifty moves have been played by each player without a piece being captured or a pawn moved.

2. The same board position has been repeated three times, with the same player to move and all pieces having the same rights to move, including such things as the right to castle or capture *en passant*. In particular, if a player is able to check the opposing king continually (perpetual check) and he indicates his intention to do so, the game is considered a draw.

Tournament games are played under time constraints. Each player must make all his moves in a specified time, or be in danger of forfeit.

- If there is a checkmate on the board, the player delivering checkmate wins, no matter what is subsequently noticed about the time.

- If player A calls attention to the fact that player B is out of time, but it is then noted that player A is also out of time, the game is drawn.

- If player A calls attention to the fact that player B is out of time, player A is not out of time, and player A has sufficient material to checkmate (either a pawn, a knight and a bishop, two bishops, a rook, or a queen), then player A wins immediately.

- If player A calls attention to the fact that player B is out of time, and player A does not have sufficient material to checkmate, the game is drawn.

Various tournament rules have been devised to prevent players from playing on with no practical chances of winning on the board, intending merely to win when their opponent runs out of time. For example, a king and rook versus a king, bishop, and pawn cannot be won by either player 99% of the time, even though both sides theoretically have enough material to checkmate. The player with more time might play quickly in hopes of inducing a blunder or running out the opponent's clock. If a player believes his opponent is attempting to win a drawn position on time, he may appeal to a tournament official, who may impose a result or a penalty in accordance with whatever rules are in effect for that tournament.

In formal competition, each player is obliged to record each move as it is played in order to settle disputes about illegal positions and overstepping time control. Algebraic chess notation is presently used for this, though some older books still use descriptive chess notation.

Equipment

Chessboard | Chess Pieces | Game Clock

Chessboard

The board used in the game of chess consists of eight rows and eight columns of squares arranged in alternating colors. The colors are called "black" and "white", although the actual colors are usually dark green and buff for boards used in competition, and often natural shades of light and dark woods for home boards. Some play sets may use red and black, which is also used for checkers.

The board is always placed so that the rightmost square on the row nearest each player is a "white" square.

In modern commentary, the columns (called *files*) are labeled by the letters **a** to **h** from left to right from the white player's point of view, and the rows (called *ranks*) by the numbers **1** to **8** from the white player's point of view, thus providing a standard notation called Algebraic chess notation.

In older English commentary, the files are labeled by the piece originally occupying its first rank, and ranks by the numbers **1** to **8** from each player's point of view, depending on the move being described. This is called English chess notation, and is no longer commonly used.

At the start of the game, the pieces are arranged in ranks **1** and **2** as follows:

Rank **1** contains rook, knight, bishop, queen, king, bishop, knight, and rook in this order from left to right. The three pieces on the Queen's side are called "queen's rook", "queen's knight" etc., and the other pieces are "king's rook", "king's bishop", etc. Rank **2** contains eight pawns. Black's pieces on ranks **7** and **8** are a mirror image of white's. In particular, both kings share

the same file (file **e**), as do both queens (on file **d**). This is often remembered by noting that each queen sits on a square of her own color.

The image at the top of this page is a graphical representation of this starting position, with the files and ranks labeled. By convention, diagrams display the starting position of the white pieces at the bottom of the board.

Chess pieces

In chess, each player has one of two equivalent sets of pieces (each a different color) at the beginning of the game. Each set has six types of pieces, each with its own pattern of movement:

- King
- Queen
- Rook (2)
- Bishop (2)
- Knight (2)
- Pawn (8)

Other pieces, not used in conventional chess but used in chess variants or certain kinds of chess problems, are known as *fairy pieces*. For a list, see fairy chess piece.

Physical chess pieces used to play a game are usually three-dimensional figurines, taller than they are wide (a set of pieces designed for a board with squares two inches wide will typically have a king around 3.75 inches tall). They are available in a variety of designs, with the most usual known as the "Staunton design", named after the 19th century English chess player, Howard Staunton, being designed by Nathaniel Cook.

For games played at the top level, pieces made of wood are usual, but for lower-level games or very large tournaments, plastic sets are more normal.

Some small magnetic sets, designed to be compact, have pieces more like those used in Shogi and Xiangqi - each piece being a similar flat token, with a symbol drawn on it to show which piece it is.

See Also: Lewis chessmen, Rules of chess.

Game Clock

Time Control

A **game clock** is a device with two clocks, with the possibility of starting one and at the same time stopping the other, all by simply pressing one button. It is applied in two-player games, where the players do moves in turn; the purpose is to keep track of the total time each of the two players take for their own moves.

They were first used extensively in tournament chess, and are often referred to as "chess clocks", but their use has since been adopted for tournament Scrabble, Shogi, Go, and nearly every competitive two-player board game. A game clock ensures that neither player overly delays the game.

The simplest time control is "sudden death", in which players must make a predetermined number of moves in a certain amount of time or forfeit immediately. A particularly popular variant in informal play is "speed" or "blitz" chess, in which each player is given five minutes on the clock for the entire game.

The players may take more or less time over any individual move, which means that whilst the start of the game is a relatively quick succession of moves, the players can spend a large period of time thinking over the more complex moves later. The players are permitted to leave the table during their opponents turn--but there is nothing stopping their opponent from deciding on their move and pressing the button to restart the opponent's clock.

Analog clocks (as pictured on the right) are equipped with a "flag" that falls to indicate the exact moment the player's time has expired. Unfortunately, additional time can't easily be added for more complex time controls, especially those which call for an increment or delay on every move, such as some forms of byoyomi. Therefore more versatile digital clocks are becoming increasingly popular.

Digital clocks and Internet gaming have spurred a wave of experimentation with more varied and complex time controls than the traditional standards. It remains to be seen whether new standards will emerge, or a greater variety of time controls will be widely used.

Time control

A **time control** is imposed on the tournament play of almost all two-player board games to ensure that neither player delays the game or gains an unfair advantage by thinking for an unduly long time. Time controls are typically enforced by means of a game clock.

In tournament chess the most common time controls for professionals are at 40/2, SD/1 time controls, which means that the first 40 moves must be made in two hours and then all remaining moves be made in an hour. Any extra time from the original two hours carries over to the sudden death time. In an effort to popularize chess as a spectator sport, an

increasing number of tournament games are played at SD/30, which means that each player has thirty minutes to complete all of his moves. This time control is referred to as Rapid Chess. Recreational games are often played at SD/5, which is referred to as "blitz" chess.

In tournament Scrabble the time control is standardized to 25 minutes per side with a 10-point penalty for each minute that is used in excess. The number of extra minutes is rounded up, so that overstepping time control by 61 seconds carries a 20-point penalty.

In tournament Shogi and Go, players generally have a set limit for all of their moves, after which the byoyomi rule goes into effect. When a player runs out of time, he does not automatically lose as in chess, but has a limited time for each remaining move. For example, in fairly fast shogi games, a game will be played with 30 minutes per side with a 30 second byoyomi. This means each player will have 30 minutes for their moves, after which they must make *each* move within 30 seconds. If a player uses less than 30 seconds on a move during byoyomi, the additional seconds are not carried forward.

The Internet Chess Club popularized the use of "increments" on each move rather than a block of time awarded after a block of moves. A player might, for example, be awarded an additional 20 seconds of thinking time after each move.

Bobby Fischer proposed (and attempted to patent) a time control concept similar to byoyomi, but which would be in effect from the start of the game. Each player is allowed a large block of time (say 30 minutes), which should be used on complicated moves, and a small amount of time (say 30 seconds) on each move before the main bank would begin to decline. Moves made in less than 30 seconds would not cause the bank to increase. This method not only prevents time scrambles in which moves must be played almost thoughtlessly, it also encourages players not to move quickly even when they have a good deal of time remaining, because there is no advantage to moving in 2 seconds rather than 29.

Top-line digital game clocks are capable of accommodating all of the above time controls, as well as many others.

Movements

Bishop | King | Knight | Pawn | Queen | Rook | Castling | 50 Move Rule

Bishop

A **bishop** is a piece in the strategy board game of chess. Each player begins the game with two bishops. One starts between the king's knight and the king, the other between the queen's knight and the queen. In algebraic notation the starting squares are c1 and f1 for white's bishops, and c8 and f8 for black's bishops.

The bishops may be differentiated according to which wing they begin on, i.e. the *king's bishop* and *queen's bishop*. As each bishop always remains on either the white or black squaues, it is also common to refer to them as the *light-squared* or *dark-squared* bishop.

The bishop has no restrictions in distance for each move, but is limited to diagonal movement, forward and backward. Bishops cannot jump over other pieces. As with most pieces, a bishop captures by occupying the square on which an enemy piece sits.

Because the bishop has access to only thirty-two squares of the board, it is rather weaker than the rook to which all sixty-four squares of the board are accessible. Furthermore, a rook on an empty board always attacks fourteen squares, whereas a bishop attacks only seven to thirteen depending on how near it is to the center. A rook is generally worth about two pawns more than a bishop.

Bishops are approximately equal in strength to knights. Bishops gain in relative strength towards the endgame as more and more pieces are traded, and lines open up on which they can operate. When the board is empty, a bishop can operate on both wings simultaneously, whereas a knight takes several moves to hop across. In an open endgame, a pair of bishops is decidedly superior to a bishop and a knight or two knights. A player possessing a pair of bishops has a strategic weapon in the form of a long-term threat to trade down to an advantageous endgame.

On the other hand, in the early going a bishop may be hemmed in by pawns of both players, and thus be inferior to a knight which can hop over obstacles. Furthermore, on a crowded board a knight has many opportunities to fork two enemy pieces. While it is technically possible for a bishop to fork, practical opportunities are rare.

A bishop which has trouble finding a good square for development in the center may be *fianchettoed*, for example pawn g2-g3 and bishop f1-g2. This forms a strong defense for the castled king on g1 and the bishop can often exert pressure on the long diagonal h1-a8. A fianchettoed bishop should not be given up lightly, because then the holes in the pawn formation around the king can easily prove disastrous.

A player with only one bishop should generally place his pawns on squares of the color that the bishop can not move to. This allows the player to control squares of both colors, allows the bishop to move freely among the pawns, and helps fix enemy pawns on squares on which they can be attacked. A bishop which is impeded by friendly pawns is sometimes disparagingly called a "tall pawn", or more simply, a "bad bishop".

Endgames where each side has only one bishop each on squares of opposite colors often result in draws, even if one side has one or two pawns more than the other. Each side tends to gain control of squares of opposite colors, and a deadlock results.

In endgames with same-colored bishops, even a minute advantage may be enough to win.

King

The **king** is a piece in the game of chess. The king represents the prize the opposition seeks to win. If the king is threatened and cannot escape capture, the king is said to be in checkmate and the game is lost. Each player starts with his king in the middle of his first rank, between the queen and the king's bishop. In algebraic notation, the white king starts on e1 and the black king on e8.

A king can move one square in any direction (horizontally, vertically, and diagonally as shown at left), except that it may not move onto a square that is under attack by an enemy piece. As with most pieces, it captures by moving onto a square occupied by an enemy piece. Also, in conjunction with a rook, the king may make a special move called castling.

If an opponent's move places the king under attack, it is said to be *in check*, and the player in check is required to immediately remedy this situation by moving the king, capturing the attacking piece, or interposing a piece between the king and the attacking piece. If none of these three options are possible, the player has been *checkmated* and loses the game.

A player may not make any move that leaves his king exposed to attack. If the king is not under attack, and all available moves for that player would place the king under attack, then that player has been stalemated and the game is drawn.

In the opening and middlegame, the king rarely plays an active role, instead seeking safety on the edge of the board behind friendly pawns. In the endgame, however, the danger of checkmate is minimal, and the king emerges to play an active role in assisting the promotion of friendly pawns.

It is impossible to assign a value to the king relative to the other chess pieces, because the king can't be exchanged. Its value in that sense is infinite. However, in the endgame the king has a power of attack and defense somewhat greater than a bishop or a knight.

Knight

The **knight** is a piece in the game of chess, representing a knight (armoured soldier) and often depicted as a horse's head. Each player starts with two knights on his home rank. In algebraic notation the white knights start on b1 and g1, while the black knights start on b8 and g8.

The knight move is unusual among chess pieces. It plays and captures alternately on White and Black squares; each move may be described as stepping one square horizontally or vertically and then one square diagonally away from the direction of the original square. The move is one of the longest surviving moves in chess having remained unchanged since before the seventh century AD. because of this it also occurs in most chess variants.

See the diagram to the left for the eight legal moves of a centralized knight. Unlike other chess pieces, the knight ignores any pieces in the path of its move, "jumping" directly to the destination square. Like most other pieces, it captures an enemy piece on its destination square.

Most pieces are more powerful if placed near the center of the board, but this is particularly true for a knight. A knight on the edge of the board attacks only four squares, and a knight in the corner only two. Moreover, it takes more moves for a decentralized knight to switch operation to the opposite side of the board than a decentralized bishop, rook, or queen. For this reason the phrase, "A knight on the rim is grim" (others say "A knight on the rim is dim") was coined.

The knight is the only piece that can move at the beginning of the game before any pawn move has been made. Because of the above reasons, in most situations, the best square for the initial move of each knight is towards the center. Knights are usually brought into play slightly sooner than bishops, and much sooner than the rooks and the queen.

Note that the knight is the only piece that can be in position to attack a queen without being in the queen's line of attack. It is also not attacked by a king, bishop, or rook which it attacks. These features make the knight especially well-suited for executing a fork.

A knight is approximately equal in strength and value to a bishop. The latter's range is larger but the knight has the advantage of being able to reach any square of the board regardless of color. Since the knight is capable of jumping over obstructing pieces, it is considered to be more valuable earlier in the game when the board is more crowded. Also a crowded board provides more opportunity for the knight to execute forks. Towards the endgame, when the board becomes less crowded by pieces, the knight's value is diminished relative to the bishop.

Enemy pawns are very effective at harassing knights, because a pawn attacking a knight is not itself attacked by the knight. For this reason, a knight is most effective when placed in a "hole" in the enemy position, i.e. a square which can't be attacked by enemy pawns. In the diagram at right, white's knight on d5 is very powerful, more powerful than black's bishop on g7.

See also: Knight's Tour

Pawn

"The pawns are the soul of chess." - Philidor

The **pawn** is the weakest and most numerous piece in the game of chess, representing infantry, or more particularly pikemen. Each player begins the game with eight pawns, one on each square of his second rank. In algebraic notation the white pawns start on a2, b2, c2, ..., h2, while the black pawns start on a7, b7, c7, ..., h7. Pawns are differentiated by the files in

which they currently stand, for example one speaks of "white's f-pawn". Sometimes, however, pawns are still referred to using descriptive notation, e.g. "white's king's bishop's pawn".

Pawns are unusual in movement and use. Unlike all the other pieces, pawns may not move backwards. Normally the pawn moves by advancing a single square, but the first time each pawn is moved from its initial position, it has the option to advance two squares. Pawns may not use the initial two-square advance to jump over an occupied square. In the diagram at left, the pawn on c4 may move to c5, while the pawn on e2 may move to either e3 or e4.

Unlike other pieces, the pawn does not capture in the same way as it moves. A pawn captures diagonally, one square forward and to the left or right. In the diagram to the right, the white pawn may capture either the black rook or the black knight. Any piece directly in front of a pawn, friend or foe, blocks its advance.

An even more unusual move is the *en passant* capture. This arises when a pawn uses its initial-move option to advance two squares instead of one, and in so doing passes over a square that is attacked by an enemy pawn. That enemy pawn, which would have been able to capture the moving pawn had it advanced only one square, is entitled to capture the moving pawn "in passing" *as if* it had advanced only one square. The capturing pawn moves into the empty square over which the moving pawn moved, and the moving pawn is removed from the board. In the diagram at left, the black pawn has just moved c7 to c5, so the white pawn may capture it by moving from d5 to c6. The option to capture *en passant* must be exercised on the move immediately following the double-square pawn advance, or it is lost and may not be made later.

Finally, a pawn that advances all the way to the opposite side of the board (the opposing player's first rank) is *promoted* to another piece of that player's choice. The pawn is immediately (before the opposing player's next move) replaced by a queen, rook, bishop, or knight of the same color. Promotion is often called "queening", because the piece chosen is nearly always a queen. When some other piece is chosen, it is known as underpromotion.

In practice, a promoted pawn is often replaced with a piece previously captured, because standard chess sets do not come with additional pieces. The choice of promotion, however is *not* limited to captured pieces. It is perfectly acceptable to have, say, three knights, or two or more queens simultaneously in play. In fact, game eleven of the 1927 world championship match between Jose Raul Capablanca and Alexander Alekhine featured four queens on the board. When extra pieces are not available, a second queen is often indicated by an inverted rook.

Strategy

Pawns are the source of nearly all of the strategic depth of chess. If pieces are temporarily badly placed, they can be regrouped more favorably. A poorly placed pawn, in contrast, cannot retreat to a more favorable position, it can only advance further.

Because pawns capture diagonally and can be blocked from moving straight forward, opposing pawns often become locked in diagonal *chains* of two or three, where each player controls squares of one color. In the diagram at left, black and white have locked their d- and e-pawns.

Generally speaking, the *pawn structure* determines the strategic flavor of a game. In the diagram at left, white has a long-term space advantage. White will have an easier time than black in finding good spaces for his pieces, particularly with an eye to a kingside attack. Black, in contrast, suffers from a "bad bishop" on c8, which is prevented by his own pawns from finding a good square and/or helping out on the kingside.

On the other hand, white's pawns are somewhat over-extended and vulnerable to attack. Black can undermine the white pawn chain with an immediate c7-c5 and perhaps a later f7-f6. An advanced piece, when attacked, has the option of retreating, but far advanced pawns are sitting targets.

Pawns on adjacent files are strong, because they can support each other in attack and defense. A pawn which has no friendly pawns in neighboring files is *isolated*. The square in front of an isolated pawn may become an enduring weakness. Any piece placed directly in front not only blocks the advance of that pawn, but can't be driven away by other pawns.

In the diagram at right, black has an isolated pawn on d5. If all the pieces except the kings were removed, the weakness of d4 might prove fatal to black in the endgame. In the middle game, however, black has slightly more freedom of movement than white, and may be able to trade off the isolated pawn before an endgame ensues.

A pawn which can't be blocked or captured by enemy pawns in its advance to promotion is *passed*. In the diagram at left, white has a passed pawn on a4. Black's pawn on g7 is not a passed pawn, because it has to get by white's h2 pawn before it can be promoted. Because endgames are almost always won by the player who can promote a pawn first, having a passed pawn is often decisive.

The diagrammed position might appear roughly equal, because each side has a king and five pawns, and the positions of the kings are about equal. In truth, white has a won game merely on the strength of his passed pawn, no matter who makes the first move.

Sometimes, due to captures, a player may end up with two pawns in the same file, which are then called *doubled* pawns. Doubled pawns are substantially weaker than pawns which are side by side, because they can't defend each other, and the front pawn blocks the advance of

the back one. In the diagram at right, black is playing at a strategic disadvantage due to his doubled c-pawns. A chessplayer should not cling too firmly to this rule of thumb: there are situations where doubled pawns are the source of a positional advantage, although it can of course be converted to a disadvantage later on.

Even weaker than doubled pawns are pawns which are doubled and isolated. A single piece or pawn in front of doubled isolated pawns blocks both of them, and cannot be easily dislodged.

It is rare for a player to have three pawns in a file, i.e. *tripled* pawns, but it does happen in real games. Depending on the position, tripled pawns may be more or less valuable than two pawns which are side by side.

Queen

The **queen** is the most powerful piece in the game of chess. Each player starts the game with one queen, placed in the middle of his first rank next to his king. Beginners often accidentally interchange the placement of the queen and king, thus the mnemonic "queen on her color". The white queen starts on a white square, and the black queen on a black square. In algebraic notation, the white queen starts on d1 and the black queen on d8.

The queen can be moved in a straight line vertically, horizontally, or diagonally, any number of unoccupied squares as shown to the left, thus combining the moves of the rook and bishop. As with most pieces, the queen captures by occupying the square on which an enemy piece sits.

Ordinarily the queen is slightly more powerful than a rook and a bishop, while slightly less powerful than two rooks. Because the queen is more valuable than any other piece, it is almost always disadvantageous to exchange the queen for a piece other than the enemy's queen.

The queen is at her most powerful when the board is open, when the enemy king is not well-defended, or when there are *loose* (i.e. undefended) pieces in the enemy camp. Because of her long range and ability to move in more than one direction, the queen is well-equipped to execute forks, but such forks are only useful when both the forked pieces are undefended, or one is undefended and the other is the enemy king.

Beginners often develop the queen as soon as possible, in the hopes of plundering the enemy position and possibly even delivering an early checkmate. While effective against other beginners, this strategy is disadvantageous against experienced players. The defender need only look to his king's safety and make sure every piece is protected, and the attacking queen will not be able to strike home. Moreover, because the queen is too valuable to exchange, the defender can often gain time and space by threatening an exposed queen and forcing her to retreat.

Typically an exchange of queens marks the beginning of the endgame. After the queens and a few other pieces have been exchanged, the kings are able to participate more actively in events, and the focus of the game shifts to a struggle to promote a pawn, usually to a new queen. However, it is not necessary to lose one's queen before gaining a new one by promotion.

See also Eight queens puzzle.

Rook

A **rook** is a piece in the strategy board game of chess. Each player starts with two rooks, one in each of the corners nearest him. In algebraic notation, white's rooks start on a1 and h1, while black's rooks start on a8 and h8

The rook moves horizontally or vertically, forward or back, through any number of unoccupied squares, as shown in the diagram at left. Like most pieces, it captures by occupying the square on which an enemy piece stands. The rook also participates, along with the king, in a special move called castling.

Rooks represent siege towers, and get their name from elephant-mounted versions once used in India. They are usually made to look like little castles as a result, and are called "castles" by some.

In general, rooks are stronger than bishops or knights and are consequently considered about two pawns greater in value. Winning a rook for a bishop or knight is referred to as winning *the exchange*. Two rooks are worth slightly more than a queen. Rooks and queens are called *heavy pieces* or *major pieces*, as opposed to bishops and knights, which are called *minor pieces*.

In the opening, the rooks are undefended by other pieces, so it is usually desirable to *unite* one's rooks on the first rank by castling and clearing all pieces except the king and rooks from the first rank. In that position the rooks protect each other, and can easily move to threaten the most favorable files.

A common goal with a rook is to place it on the first rank of an "open" file, i.e. one unobstructed by pawns of either player, or a "half-open" file, i.e. one unobstructed by friendly pawns. From this position, the rook is relatively unexposed to risk but can control every square in the file. If one file is particularly important, a player may advance one rook on it, and move the other behind, *doubling* the rooks.

A rook on the seventh rank (the opponent's second rank) is usually very powerful, as it threatens the opponent's unadvanced pawns and hems in the enemy king. Two rooks on the seventh rank are often enough to force victory, or at least a draw by perpetual check.

Rooks are most powerful towards the end of a game, where they can move unobstructed by pawns and control large numbers of squares. They are somewhat clumsy at restraining enemy pawns from advancing towards promotion, unless they can occupy the file behind the advancing pawn. By the same token, a rook best supports a friendly pawn towards promotion from behind it in the same file.

Castling

Castling is a special move in the game of chess involving the king and either rook.

The move can be made only if all of the following conditions hold:

1. The player must never have moved his king;
2. The player must never have moved the rook with which he wishes to castle;
3. There must be no pieces between the king and the rook;
4. The king must not be in check, the square the king crosses must not be attacked by an enemy piece and the act of castling must not place the king in check

A common mistake is to think that one may not castle if one's rook is under attack or will move over an attacked square.

Another misconception is that one may not castle if one's king has ever been in check. Neither of these circumstances disqualifies one from castling as long as the above rules are satisfied.

Castling involves moving the king two squares toward the rook, then moving the rook into the square over which the king crossed. See the diagrams to the left.

To signal the intention to castle, one should pick up the king first and move it two squares, and then move the rook over it. Picking up the rook first signals the intention to just move the rook.

The notation for castling is O-O on the king side or O-O-O on the queen side.

Castling is an important goal in the early part of a game, because it serves two valuable purposes: it moves the king into a safer position away from the center of the board, and it moves the rook to a more active position in the center of the board.

If the king is forced to move before it has the opportunity to castle, the player may still wish to maneuver the king towards the edge of the board and the corresponding rook towards the center. When a player takes three or four moves to accomplish what castling would have accomplished in one move, it is sometimes called *artificial castling*.

If one player castles kingside, and the other queenside, it is called *opposite castling*. Castling on opposite sides usually results in a fierce fight as the pawns on both sides are free to advance to attack the opposing king's castled position without exposing the player's own castled king.

An example is the Dragon Variation of the Sicilian opening.

Castling is in most non-English speaking nations known as 'Rochieren/Rochada', whilst 'queenside/kingside castling' is in those countries referred to as 'long/short' castling'.

Some chess variants have modified castling rules to handle modified starting positions. For an example, see the rules of Fischer Random Chess.

Fifty move rule

The **fifty move rule** in chess states that a player can claim a draw if no capture has been made and no pawn has been moved in the last fifty consecutive moves. The relavent part of the official FIDE laws of chess is rule 9.3:

The game is drawn, upon a correct claim by the player having the move, if

a. he writes on his scoresheet, and declares to the arbiter his intention to make a move which shall result in the last 50 moves having been made by each player without the movement of any pawn and without the capture of any piece, or

b. the last 50 consecutive moves have been made by each player without the movement of any pawn and without the capture of any piece.

It should be noted that after fifty moves the game is not automatically a draw--the draw must be claimed by the player on move. It is, therefore, possible for a game to continue beyond a point when a draw could be claimed under the rule.

The rule has a long history, with Ruy Lopez' 1561 text on chess including details of it. In the 20th century, with the discovery that certain endgames (such as two bishops and king against knight and king) can only be won in more than fifty moves from certain positions, the rule was changed to include certain exceptions in which one hundred moves were allowed with particular material imbalances. All these exceptions were later scrapped and all material combinations are now subject to the fifty move rule.

Games drawn under the fifty move rule before the endgame are rare. One example is Filipowicz - Smederevac, Polanica Zdroj 1966, which was drawn on move 70 without any captures having been made in the whole game and with the last pawn being moved on move 20.

Notations

Algebraic Notation | Descriptive Notation | Computer Processing

Algebraic chess notation

Algebraic chess notation is the method used today by all competition chess organizations and most books, magazines, and newspapers to record and describe the play of chess games. It replaced descriptive chess notation, although the older notation can still be found in older literature.

The notation begins by identifying each square of the chessboard with a unique coordinate. First, the *files* (that is, lines running parallel to the direction the players are facing) are labelled with lowercase letters **a** through **h**, from the left of the "white" player. So the "**a**" file is to white's left, and to black's right. Then the *ranks* (lines running horizontally between the players) are numbered from **1** to **8**, starting from white's home rank. Thus, black's home rank is rank **8**. Each square of the board, then, is uniquely identified by its file letter and rank number. The white king, for example, starts the game on square **e1**. The black knight on **b8** can move to **a6** or **c6** (or **d7**, if that square is vacant).

Each type of piece (other than pawns) is identified by an uppercase letter, usually the first letter in the name of that piece in whatever language is spoken by the player recording. English-speaking players use **K** for king, **Q** for queen, **R** for rook, **B** for bishop, and **N** for knight (since **K** is already used). Players may use different initials in other languages. For example, French players use **F** for bishop (from *fou*). Pawns are not indicated by a letter, but by the absence of such a letter.

Each move of a piece is indicated by the piece's initial, plus the coordinate of the destination square. For example **Be5** (move a bishop to **e5**), **Nf3** (move a knight to **f3**), **c5** (move a pawn to **c5**--no initial in the case of pawn moves). In some publications, the pieces are indicated by graphical representations rather than by initials: for example, **♞c6** (your web browser may not be able to display that properly).

When a piece makes a capture, an **x** is inserted between the initial and the destination square. For example, **Bxe5** (bishop captures the piece on **e5**). When a pawn makes a capture, the *file* from which the pawn departed is used in place of a piece initial. For example, **exd5** (pawn on the **e**-file captures the piece on **d5**). The **:** after the move (**Be5:**) is also used for captures. *En passant* captures (see pawn) are specified by the capturing pawn's file of departure, the **x**, and the square to which it moves (not the location of the captured pawn), optionally followed by the notation "e.p."

If two identical pieces can move to the same square, the piece's initial is followed by: (1) if both pieces are on the same rank, the file of departure; (2) if both pieces are on the same file, the rank of departure. If pieces are on different ranks and files, method (1) is preferred. For

example, with two knights on **g1** and **d2**, either of which might move to **f3**, the move is indicated as **Ngf3** or **Ndf3**, as appropriate. With two knights on **g5** and **g1**, the moves are **N5f3** or **N1f3**. As above, an **x** may be used to indicate a capture: for example, **N5xf3**. It may be necessary to identify a departing piece with both its file and its rank in unusual configurations (e.g. the player has 3 queens or 3 knights on the board). It is never necessary to specify that a capture was *en passant* because a capture from the same file but not *en passant* would have a different destination square.

If a pawn moves to its last rank, achieving promotion, the piece chosen is indicated after the move, for example **e1Q**, **b8N**. Sometimes an "=" sign is used: **f8=Q**.

Castling is indicated by the special notations **0-0** (for kingside castling) and **0-0-0** (queenside). Optionally, it may be indicated by the king's move; for example, **Kg1**.

Additional marks can be added after the move to provide more information. The mark "!" means good move, "?" means a bad move, "??" means a blunder, "?!" refers to a dubious move, while "!?" is an interesting move. "!!" is reserved for really great moves.

A move which places the opponent's king in check (see king) may have the notation "+" added. Checkmate can likewise be indicated "#" (some use "++" instead, but the U.S. Chess Federation recommends "#").

Chess games are often stored in computer files using Portable Game Notation (PGN), which uses algebraic chess notation as well as additional markings to describe a game.

Some computer programs (and people) use a variant of algebraic chess notation, termed *long algebraic notation* or *full algebraic notation*. In full algebraic notation, moves are simply written as the beginning position, a dash ("-"), and the ending position. An example would be "e2-e4". This notation takes more space and thus is not as commonly used.

Comment Shorthand Notation

The following short-hand notations are frequently used to comment moves:

= the two sides are equal in this position

+/= white is slightly better

=/+ black is slightly better

+/- white has a clear advantage

-/+ black has a clear advantage

1-0 white won

0-1 black won

.5-.5 draw

! a good move

!! an excellent move

? a mistake

?? a blunder

!? an interesting move that may not be best

?! a dubious move, but not easily refuted

Descriptive chess notation

Descriptive Chess Notation is a notation for recording chess games, and at one time was the most popular notation for doing so. Alternate names for this notation include descriptive notation, English notation, and English descriptive notation. It is not used often today (most people today use algebraic chess notation), but is still important for understanding older textbooks on Chess.

Each move in descriptive chess notation is either a special castling symbol (O-O for a kingside castle or O-O-O for a queenside castle, as with algebraic notation), or by the following sequence: piece name, "-" (no capture) or "x" (capture), its final square at the end of the move, and special indicators if any. The piece names are K (King), Q (Queen), R (Rook), B (Bishop), Kt (Knight), and P (Pawn); note that English versions of algebraic notation use the same abbreviations except for the Knight and Pawn. Special indicators include e.p. (en passant), Ch (Check), and Mate (Checkmate). If the move is a capture, the final square may

be indicated by naming the piece being captured rather than by naming the final square. Typically, the move will record only enough information to make the move unambiguous, and piece names may be combined with a location to eliminate ambiguity. So, depending on the available possibilities, a pawn capturing a pawn may be noted as "P x P" if that is the only capture possible, or as "QBP x QP" ("Queen's Bishop's Pawn captures Queen's Pawn") if more than one such move is possible.

The primary difference between algebraic and descriptive notation is how squares are specified. The squares are identified by what piece originally starts there (using the adjectives "Queen's" and "King's" to disambiguate the side), followed by how many squares from that player's perspective. Thus, when White is playing, algebraic notation's square "a1" in descriptive notation would be spoken as "Queen's Rook 1" and written as "QR1" in descriptive notation. Squares written as a1 through h1 in algebraic notation are written in descriptive notation as QR1, QKt1, QB1, Q1, K1, KB1, KKt1, and KR1. From White's perspective, the square notated as "e4" in algebraic notation is described as "K4" in descriptive notation. Note that the name for the same square has a different representation depending on whether the player is Black or White; the square notated as K4 for White is notated as K5 for Black.

Thus, moving the King's pawn forward two squares as an initial move would be written as "e4" in algebraic notation, and as "P-K4" in descriptive notation.

Algebraic notation has the advantages of representing the same moves with fewer characters (on average), and using the same representation for the same location regardless of player.

See also:

- Chess
- Algebraic chess notation

Computer Processing

Forsyth-Edwards | PGN

Forsyth-Edwards Notation

Forsyth-Edwards Notation (**FEN**) is a standard notation for describing a particular board position of a Chess game. The purpose of FEN notation is to provide all the necessary information to restart a game from a particular position.

FEN is based on a system developed by the Scottish newspaper journalist, David Forsyth. Forsyth's system became popular in the 19th century; Steven Edwards extended it to support use by computers. FEN is an integral part of the Portable Game Notation for chess games, since FEN is used to define initial positions other than the standard one. Notations such as FEN are critical for recording games in chess variants such as Fischer Random Chess where the initial position is not necessarily the traditional initial position.

Definition

A FEN "record" defines a particular game position, all in one text line and using only the ASCII character set. A text file with only FEN data records should have the file extension ".fen".

A FEN record contains 6 fields. The separator between fields is a space. The fields are:

- Piece placement (from white's perspective). Each rank is described, starting with rank 8 and ending with rank 1; within each rank, the contents of each square are described from file a through file h. White pieces are designated using upper-case letters ("KQRBNP"), Black by lowercase ("kqrbnp"). Blank squares are noted using digits 1 through 8 (the number of blank squares), and "/" separate ranks.
- Active color. "w" means white moves next, "b" means black.
- Castling availability. If neither side can castle, this is "-". Otherwise, this has one or more letters: "K" (White can castle kingside), "Q" (White can castle queenside), "k" (Black can castle kingside), and/or "q" (Black can castle queenside).
- En passant target square. If there's no en passant target square, this is "-". If a pawn has just made a 2-square move, this is the position "behind" the pawn.
- Halfmove clock: This is the number of halfmoves since the last pawn advance or capture. This is used to determine if a draw can be claimed under the fifty move rule.

- Fullmove number: The number of the full move. It starts at 1, and is incremented after Black's move.

Examples

Here's the FEN for the starting position:

rnbqkbnr/pppppppp/8/8/8/8/PPPPPPPP/RNBQKBNR w KQkq - 0 1

Here is the FEN after the common move 1. e4:

rnbqkbnr/pppppppp/8/8/4P3/8/PPPP1PPP/RNBQKBNR b KQkq e3 0 1

And then after 1. ... c5:

rnbqkbnr/pp1ppppp/8/2p5/4P3/8/PPPP1PPP/RNBQKBNR w KQkq c6 0 2

And then after 2. Nf3:

rnbqkbnr/pp1ppppp/8/2p5/4P3/5N2/PPPP1PPP/RNBQKB1R b KQkq - 1 2

Portable Game Notation

Portable Game Notation (**.PGN**) is a computer-processable format for recording chess games (both the moves and related data); most chess programs recognize this format.

It is structured "for easy reading and writing by human users and for easy parsing and generation by computer programs." The chess moves themselves are given in Algebraic chess notation. Its usual filename extension is ".pgn".

There are two formats in the PGN specification, the "import" format and the "export" format. The import format describes data that may have been prepared by hand, and is intentionally lax; a program that can read PGN data should be able to handle the somewhat lax import format. The export format is rather strict and describes data prepared under program control, something like a pretty printed source program reformatted by a compiler. The export format representations generated by different programs on the same computer should be exactly equivalent, byte for byte.

PGN code begins with a set of "tag pairs" (a tag name and its value), followed by the "movetext" (chess moves with optional commentary).

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1 Tag Pairs

2 Movetext

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Tag Pairs

Tag pairs begin with "[", the name of the tag, the tag value enclosed in double-quotes, and a closing "]".

PGN data for archival storage is required to provide 7 tags, termed the STR (Seven Tag Roster). In export format, the STR tag pairs must appear before any other tag pairs that may appear, and in this order:

1. Event: the name of the tournament or match event.
2. Site: the location of the event. This is in "City, Region COUNTRY" format, where COUNTRY is the 3-letter International Olympic Committee code for the country. An example is "New York City, NY USA".
3. Date: the starting date of the game, in YYYY.MM.DD form. "??" are used for unknown values.
4. Round: the playing round ordinal of the game.
5. White: the player of the white pieces, in "last name, first name" format.
6. Black: the player of the black pieces, same format as White.
7. Result: the result of the game. This can only have four possible values: "1-0" (White won), "0-1" (Black won), "1/2-1/2" (Draw), or "*" (other, e.g., the game is ongoing).

Many other optional tag pairs are defined by the standard. These include:

- Time: Time the game started, in "HH:MM:SS" format, in local clock time.
- Termination: Gives more details about the termination of the game. It may be "abandoned", "adjudication" (result determined by third-party adjudication), "death", "emergency", "normal", "rules infraction", "time forfeit", or "unterminated".

- FEN: The initial position of the chess board, in Forsyth-Edwards Notation. This is used to record partial games (starting at some initial position). It is also necessary for chess variants such as Fischer Random Chess, where the initial position is not always the same as traditional chess. If a FEN tag is used, a separate tag pair "SetUp" must also appear and be have its value set to "1".

Movetext

The movetext describes the actual moves of the game. This may include move number indicators (a number followed by zero or more periods) and movetext Standard Algebraic Notation (SAN).

Movetext SAN describe actual moves in a game. In most cases, this is simply the letter abbreviation for the piece, an "x" if there is a capture, and the 2-character algebraic name of the final square the piece moved to. The letter abbreviations are K (King), Q (Queen), R (Rook), B (Bishop), and N (Knight). The pawn is given an empty abbreviation in SAN movetext, but in other contexts the abbreviation "P" is used. The algebraic name of any square is as per usual Algebraic chess notation; from white's perspective, the leftmost square closest to white is a1, while the rightmost square closest to black is h8.

In a few cases this can be ambiguous; if so, the piece's file letter, numerical rank, or the exact square is inserted after the moving piece's name (in that order of preference). Thus, "Nge2" move the knight on g to e2.

SAN kingside castling is indicated by the sequence "O-O"; queenside castling is indicated by the sequence "O-O-O" (note that these are capital letter Os, not numeral 0s). Pawn promotions are notated by appending an "=" followed by the piece the pawn is promoted to. If the move is a checking move, the plus sign "+" is appended; if the move is a checkmating move, the octothorpe sign "#" is appended (instead).

If the game result is anything other than "*", the result is repeated at the end of the movetext.

Comments

Comments may be added by either a ";" (a comment that continues to the end of the line) or a "{" (which continues until a matching "}"). Comments do not nest.

Example

Here is a sample .PGN:

[Event "F/S Return Match"]
[Site "Belgrade, Serbia JUG"]
[Date "1992.11.04"]
[Round "29"]
[White "Fischer, Robert J."]
[Black "Spassky, Boris V."]
[Result "1/2-1/2"]

1. e4 e5 2. Nf3 Nc6 3. Bb5 a6 4. Ba4 Nf6 5. O-O Be7 6. Re1 b5 7. Bb3 d6 8. c3 O-O 9. h3 Nb8 10. d4 Nbd7 11. c4 c6 12. cxb5 axb5 13. Nc3 Bb7 14. Bg5 b4 15. Nb1 h6 16. Bh4 c5 17. dxe5 Nxe4 18. Bxe7 Qxe7 19. exd6 Qf6 20. Nbd2 Nxd6 21. Nc4 Nxc4 22. Bxc4 Nb6 23. Ne5 Rae8 24. Bxf7+ Rxf7 25. Nxf7 Rxe1+ 26. Qxe1 Kxf7 27. Qe3 Qg5 28. Qxg5 hxg5 29. b3 Ke6 30. a3 Kd6 31. axb4 cxb4 32. Ra5 Nd5 33. f3 Bc8 34. Kf2 Bf5 35. Ra7 g6 36. Ra6+ Kc5 37. Ke1 Nf4 38. g3 Nxh3 39. Kd2 Kb5 40. Rd6 Kc5 41. Ra6 Nf2 42. g4 Bd3 43. Re6 1/2-1/2

Handling Chess Variants

Variants of chess may also be recorded using PGN. They are typically noted with a tag named "Variant" giving the name of the rules. Be careful to not use the term "Variation", which means the name of an opening variation instead. Note that many chess programs can only handle at most a few variants.

Fédération Internationale des Échecs

FIDE Rules | ELO Rating System

The **Fédération Internationale des Échecs**, or the **World Chess Federation**, was founded in Paris, France on July 24, 1924. It is an international organization that exists to connect the various national chess federations around the world. It is usually referred to as **FIDE**, its French acronym. Its motto is *Gens una sumus*, meaning "We are one people". Its current president (as of 2003) is Kirsan Ilyumzhinov, who also is president of Kalmykia, a small republic within Russia.

As well as organising the World Chess Championship, FIDE calculates the Elo rating of players, defines the rules of chess, periodically publishes albums of the best chess problems, and appoints International Masters, Grandmasters and Arbiters.

As well as the men's world championship, FIDE organises championships for women and juniors, regional championships, and the Chess Olympiad. They oversee few other

tournaments, although other top-level events, almost without exception, respect FIDE rules and regulations.

In its early years, FIDE had little power. This was largely because the Soviet Union refused to join, as it saw chess and politics as being inextricably bound up, and FIDE was a non-political organisation. This changed, however, when incumbent world champion Alexander Alekhine died in 1946. FIDE stepped up to organise a tournament to find a replacement, and the Soviet Union, aware that this was a process it had to be involved with, joined.

From that initial 1948 tournament (won by Mikhail Botvinnik) to 1993, FIDE was the only body organising world chess championships. This changed, however, when reigning champion Garry Kasparov and challenger Nigel Short (who had qualified through the FIDE system) broke away to play their 1993 match under the auspices of the newly-formed Professional Chess Association. Since that time there have been two world championships - one held under FIDE's aegis, and the other under a variety of organisations'. Latterly, FIDE's championships have consisted of a single knock-out tournament, rather than the traditional series of long matches.

The so-called "Prague Agreement", masterminded by Yasser Seirawan, is intended to reunite the two world championships, but as of 2003, it is not clear whether this will happen.

As organisers of the world championship, FIDE has been involved in a number of controversies. In 1975, Bobby Fischer defaulted his title after FIDE refused to meet all his demands for his match with Anatoly Karpov. In 1984, FIDE president Florencio Campomanes called off the match between Karpov and Garry Kasparov without result. Controversies have continued under the presidency of Ilyumzhinov, who has been accused of not paying promised prize money among other things. The decision to switch to a knock-out format and quicker time controls in the World Championship has also been criticised.

In 1999, FIDE was recognised by the International Olympic Committee (IOC). Two years later, it introduced the IOC's anti-drugs rules to chess. FIDE has stated that it would like chess to become part of the Olympic Games.

FIDE Presidents

- 1924 - 1949 Alexander Rueb
- 1949 - 1970 Folke Rogard
- 1970 - 1978 Max Euwe
- 1978 - 1982 Fridrik Olafsson
- 1982 - 1995 Florencio Campomanes

- 1995 - present (2003) Kirsan Ilyumzhinov

Ineke Bakker (died July 6, 2003) was secretary-general from 1972 until 1982, under Euwe and Olafsson. When Campomanes became president, she resigned. She was appointed Honorary Member of FIDE by its general assembly.

E.I.01A. Laws of Chess

FIDE Laws of Chess

The FIDE Laws of Chess cover over-the-board play.

The English text is the authentic version of the Laws of Chess, which was adopted at the 71st FIDE Congress at Istanbul (Turkey) November 2000, coming into force on 1 July 2001.

In these Laws the words 'he', 'him' and 'his' include 'she' and 'her'.

PREFACE

The Laws of Chess cannot cover all possible situations that may arise during a game, nor can they regulate all administrative questions. Where cases are not precisely regulated by an Article of the Laws, it should be possible to reach a correct decision by studying analogous situations, which are discussed in the Laws. The Laws assume that arbiters have the necessary competence, sound judgement and absolute objectivity. Too detailed a rule might deprive the arbiter of his freedom of judgement and thus prevent him from finding the solution to a problem dictated by fairness, logic and special factors.

FIDE appeals to all chess players and federations to accept this view.

A member federation is free to introduce more detailed rules provided they:

1. do not conflict in any way with the official FIDE Laws of Chess
2. are limited to the territory of the federation in question; and
3. are not valid for any FIDE match, championship or qualifying event, or for a FIDE title or rating tournament.

RULES OF PLAY

Article 1: The nature and objectives of the game of chess

1.1

The game of chess is played between two opponents who move their pieces alternately on a square board called a 'chessboard'. The player with the white pieces commences the game. A player is said to 'have the move', when his opponent's move has been made.

1.2

The objective of each player is to place the opponent's king 'under attack' in such a way that the opponent has no legal move which would avoid the 'capture' of the king on the following move. The player who achieves this goal is said to have 'checkmated' the opponent's king and to have won the game. The opponent whose king has been checkmated has lost the game.

1.3

If the position is such that neither player can possibly checkmate, the game is drawn.

Article 2: The initial position of the pieces on the chessboard

2.1

The chessboard is composed of an 8x8 grid of 64 equal squares alternately light (the 'white' squares) and dark (the 'black' squares).
The chessboard is placed between the players in such a way that the near corner square to the right of the player is white.

2.2

At the beginning of the game one player has 16 light-coloured pieces (the 'white' pieces); the other has 16 dark-coloured pieces (the 'black' pieces): These pieces are as follows:

A white king, usually indicated by the symbol ♔

A white queen, usually indicated by the symbol ♕

Two white rooks, usually indicated by the symbol ♖

Two white bishops, usually indicated by the symbol ♗

Two white knights, usually indicated by the symbol ♘

Eight white pawns, usually indicated by the symbol ♙

A black king, usually indicated by the symbol ♚

A black queen, usually indicated by the symbol ♛

Two black rooks, usually indicated by the symbol ♜

Two black bishops, usually indicated by the symbol ♝

Two black knights, usually indicated by the symbol ♞

Eight black pawns, usually indicated by the symbol ♟

2.3

The initial position of the pieces on the chessboard is as follows:

2.4

The eight vertical columns of squares are called 'files'. The eight horizontal rows of squares are called ranks'. A straight line of squares of the same colour, touching corner to corner, is called a 'diagonal'.

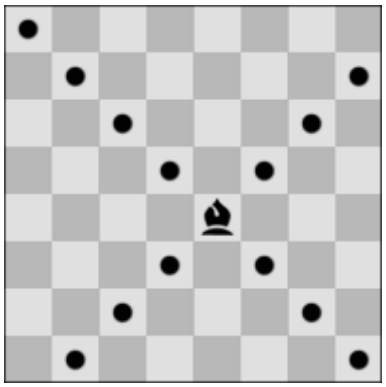
Article 3: The moves of the pieces

3.1

It is not permitted to move a piece to a square occupied by a piece of the same colour. If a piece moves to a square occupied by an opponent's piece the latter is captured and removed from the chessboard as part of the same move. A piece is said to attack an opponent's piece if the piece could make a capture on that square according to Articles 3.2 to 3.8.

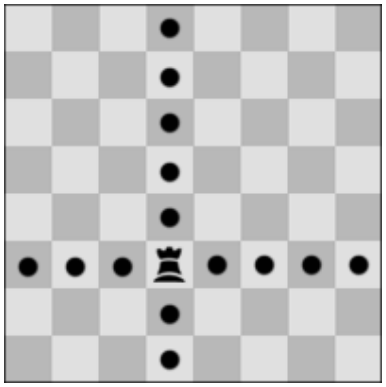
3.2

The bishop may move to any square along a diagonal on which it stands.



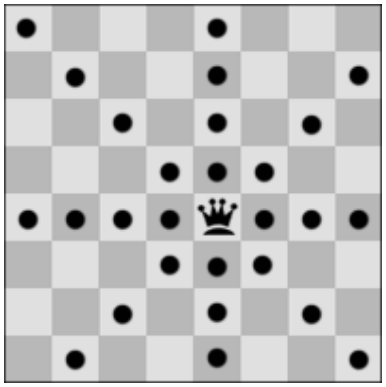
3.3

The rook may move to any square along the file or the rank on which it stands.



3.4

The queen may move to any square along the file, the rank or a diagonal on which it stands.

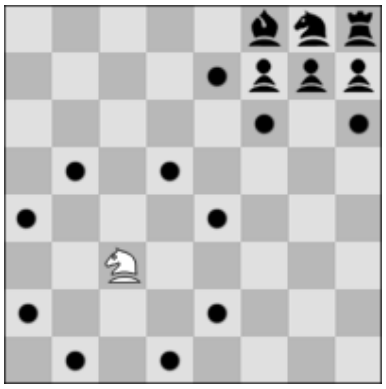


3.5

When making these moves the bishop, rook or queen may not move over any intervening pieces.

3.6

The knight may move to one of the squares nearest to that on which it stands but not on the same rank, file or diagonal.

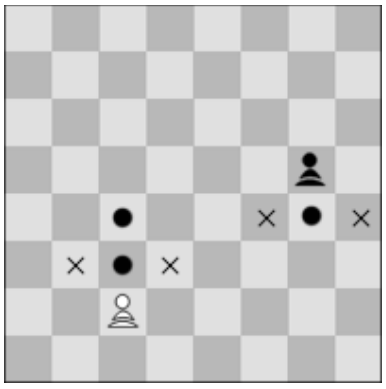


3.7

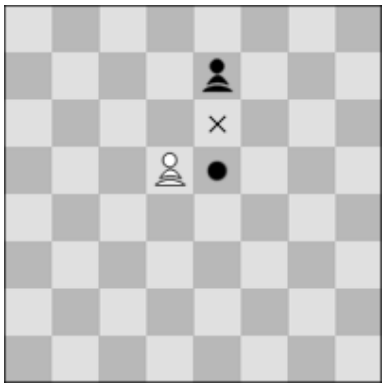
1. The pawn may move forward to the unoccupied square immediately in front of it on the same file, or

2. on its first move the pawn may move as in (a); alternatively it may advance two squares along the same file provided both squares are unoccupied, or

3. the pawn may move to a square occupied by an opponent's piece, which is diagonally in front of it on an adjacent file, capturing that piece.



4. A pawn attacking a square crossed by an opponent's pawn which has advanced two squares in one move from its original square may capture this opponent's pawn as though the latter had been moved only one square. This capture may only be made on the move following this advance and is called an 'en passant' capture.

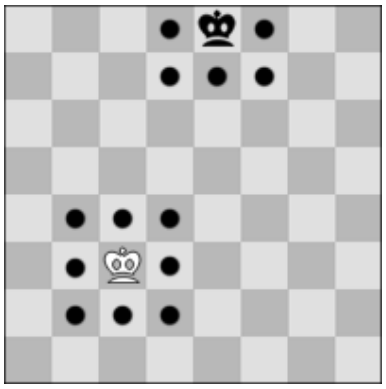


5. When a pawn reaches the rank furthest from its starting position it must be exchanged as part of the same move for a queen, rook, bishop or knight of the same colour. The player's choice is not restricted to pieces that have been captured previously. This exchange of a pawn for another piece is called 'promotion' and the effect of the new piece is immediate.

3.8

a. There are two different ways of moving the king, by:

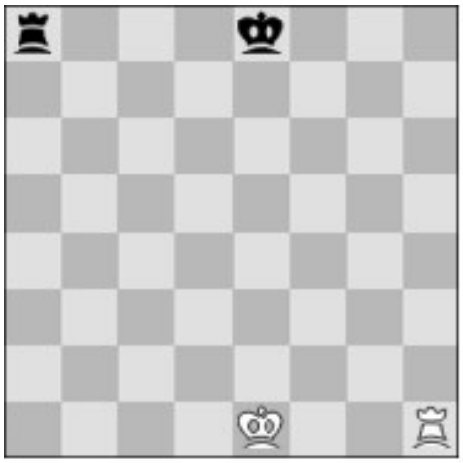
1. moving to any adjoining square not attacked by one or more of the opponent's pieces.



The opponent's pieces are considered to attack a square, even if such pieces cannot themselves move.

or

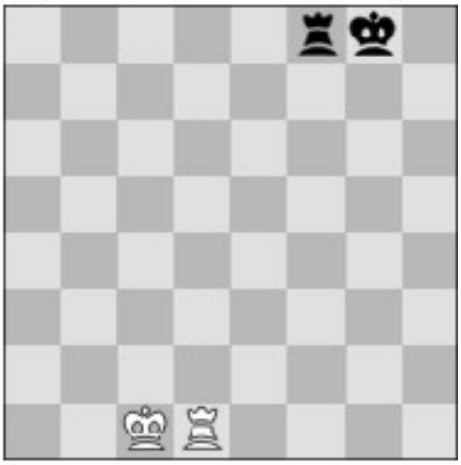
2. 'castling'. This is a move of the king and either rook of the same colour on the same rank, counting as a single move of the king and executed as follows: the king is transferred from its original square two squares towards the rook, then that rook is transferred to the square the king has just crossed.



Before white kingside castling
Before black queenside castling

After white kingside castling
After black queenside castling

Before white queenside castling
Before black kingside castling



After white queenside castling
After black kingside castling

(1) Castling is illegal:

1. if the king has already moved, or
2. with a rook that has already moved

(2) Castling is prevented temporarily

3. if the square on which the king stands, or the square which it must cross, or the square which it is to occupy, is attacked by one or more of the opponent's pieces.
4. if there is any piece between the king and the rook with which castling is to be effected.

b. The king is said to be 'in check', if it is attacked by one or more of the opponent's pieces, even if
such pieces cannot themselves move.
Declaring a check is not obligatory.

3.9

No piece can be moved that will expose its own king to check or leave its own king in check.

Article 4: The act of moving the pieces

4.1

Each move must be made with one hand only.

4.2

Provided that he first expresses his intention (e.g. by saying "j'adoube" or "I adjust"), the player having the move may adjust one or more pieces on their squares.

4.3

Except as provided in Article 4.2, if the player having the move deliberately touches on the chessboard

1. one or more of his own pieces, he must move the first piece touched that can be moved, or

2. one or more of his opponent's pieces, he must capture the first piece touched, which can be captured, or

3. one piece of each colour, he must capture the opponent's piece with his piece or, if this is illegal, move or capture the first piece touched which can be moved or captured. If it is unclear, whether the player's own piece or his opponent's was touched first, the player's own piece shall be considered to have been touched before his opponent's.

4.4

1. If a player deliberately touches his king and rook he must castle on that side if it is legal to do so.

2. If a player deliberately touches a rook and then his king he is not allowed to castle on that side on that move and the situation shall be governed by Article 4.3(a).

3. If a player, intending to castle, touches the king or king and rook at the same time, but castling on that side is illegal, the player must make another legal move with

his king which may include castling on the other side. If the king has no legal move, the player is free to make any legal move.

4.5

If none of the pieces touched can be moved or captured, the player may make any legal move.

4.6

A player forfeits his right to a claim against his opponent's violation of Article 4.3 or 4.4, once he deliberately touches a piece.

4.7

When, as a legal move or part of a legal move, a piece has been released on a square, it cannot then be moved to another square. The move is considered to have been made when all the relevant requirements of Article 3 have been fulfilled.

Article 5: The completion of the game

5.1

1. The game is won by the player who has checkmated his opponent's king. This immediately ends the game, provided that the move producing the checkmate position was a legal move.

2. The game is won by the player whose opponent declares he resigns. This immediately ends the game.

5.2

1. The game is drawn when the player to move has no legal move and his king is not in check. The game is said to end in 'stalemate'. This immediately ends the game, provided that the move producing the stalemate position was legal.

2. The game is drawn when a position has arisen in which neither player can checkmate the opponent's king with any series of legal moves. The game is said to end in a 'dead position'. This immediately ends the game, provided that the move producing the position was legal.

3. The game is drawn upon agreement between the two players during the game. This immediately ends the game. (See Article 9.1)

4. The game may be drawn if any identical position is about to appear or has appeared on the chessboard at least three times. (See Article 9.2)

5. The game may be drawn if each player has made the last 50 consecutive moves without the movement of any pawn and without the capture of any piece. (See Article 9.3)

COMPETITION RULES

Article 6: The chess clock

6.1

'Chess clock' means a clock with two time displays, connected to each other in such a way that only one of them can run at one time.
'Clock' in the Laws of Chess means one of the two time displays.
'Flag fall' means the expiration of the allotted time for a player.

6.2

1. When using a chess clock, each player must make a minimum number of moves or all moves in an allotted period of time and/or may be allocated an additional amount of time with each move. All these must be specified in advance.

2. The time saved by a player during one period is added to his time available for the next period, except in the 'time delay' mode.
   In the time delay mode both players receive an allotted 'main thinking time'. Each player also receives a 'fixed extra time' with every move. The countdown of the main time only commences after the fixed time has expired. Provided the player stops his clock before the expiration of the fixed time, the main thinking time does not change, irrespective of the proportion of the fixed time used.

6.3

Each time display has a 'flag'. Immediately after a flag falls, the requirements of Article 6.2(a) must be checked.

6.4

Before the start of the game the arbiter decides where the chess clock is placed.

6.5

At the time determined for the start of the game the clock of the player who has the white pieces is started.

6.6

If neither player is present initially, the player who has the white pieces shall lose all the time that elapses until he arrives; unless the rules of the competition specify or the arbiter decides otherwise..

6.7

Any player who arrives at the chessboard more than one hour after the scheduled start of the session shall lose the game unless the rules of the competition specify or the arbiter decides otherwise.

6.8

1. During the game each player, having made his move on the chessboard, shall stop his own clock and start his opponent's clock. A player must always be allowed to stop his clock. His move is not considered to have been completed until he has done so, unless the move that was made ends the game. (See Articles 5.1, and 5.2)
   The time between making the move on the chessboard and stopping his own clock and starting his opponent's clock is regarded as part of the time allotted to the player.

2. A player must stop his clock with the same hand as that with which he made his move. It is forbidden for a player to keep his finger on the button or to 'hover' over it.

3. The players must handle the chess clock properly. It is forbidden to punch it forcibly, to pick it up or to knock it over. Improper clock handling shall be penalised in accordance with Article 13.4.

4. If a player is unable to use the clock, an assistant, who is acceptable to the arbiter, may be provided by the player to perform this operation. The clocks shall be adjusted by the arbiter in an equitable way.

6.9

A flag is considered to have fallen when the arbiter observes the fact or when either player has made a valid claim to that effect.

6.10

Except where Articles 5.1 or one of the Articles 5.2 (a), (b) and (c) apply, if a player does not complete the prescribed number of moves in the allotted time, the game is lost by the player. However, the game is drawn, if the position is such that the opponent cannot checkmate the player's king by any possible series of legal moves, even with the most unskilled counterplay.

6.11

Every indication given by the clocks is considered to be conclusive in the absence of any evident defect. A chess clock with an evident defect shall be replaced. The arbiter shall use his best judgement when determining the times to be shown on the replacement chess clock.

6.12

If both flags have fallen and it is impossible to establish which flag fell first, the game shall continue.

6.13

1. If the game needs to be interrupted, the arbiter shall stop the clocks.

2. A player may stop the clocks only in order to seek the arbiter's assistance, for instance when promotion has taken place and the piece required is not available.

3. The arbiter shall decide when the game is to be restarted in either case.

4. If a player stops the clocks in order to seek the arbiter's assistance, the arbiter shall determine if the player had any valid reason for doing so. If it is obvious that the player has no valid reason for stopping the clocks, the player shall be penalised according to article 13.4.

6.14

If an irregularity occurs and/or the pieces have to be restored to a previous position, the arbiter shall use his best judgement to determine the times to be shown on the clocks. He shall also, if necessary, adjust the clock's move counter.

6.15

Screens, monitors, or demonstration boards showing the current position on the chessboard, the moves and the number of moves made, and clocks which also show the number of moves, are allowed in the playing hall. However, the player may not make a claim based on information shown in this manner.

Article 7: Irregularities

7.1

1. If during a game it is found that the initial position of the pieces was incorrect, the game shall be cancelled and a new game played.

2. If during a game it is found that the only error is that the chessboard has been placed contrary to Article 2.1, the game continues but the position reached must be transferred to a correctly placed chessboard.

7.2

If a game has begun with colours reversed, then it shall continue, unless the arbiter rules otherwise.

7.3

If a player displaces one or more pieces, he shall re-establish the correct position on his own time. If necessary, either the player or his opponent shall stop the clocks and ask for the arbiter's assistance. The arbiter may penalise the player who displaced the pieces.

7.4

1. If during a game it is found that an illegal move has been made, the position immediately before the irregularity shall be reinstated. If the position immediately before the irregularity cannot be determined the game shall continue from the last identifiable position prior to the irregularity. The clocks shall be adjusted according to Article 6.14. Article 4.3 applies to the move replacing the illegal move. The game shall then continue from this reinstated position.

2. After the action taken under Article 7.4(a), for the first two illegal moves by a player the arbiter shall give two minutes extra time to his opponent in each instance; for a third illegal move by the same player, the arbiter shall declare the game lost by this player.

7.5

If during a game it is found that pieces have been displaced from their squares, the position before the irregularity shall be re-instated. If the position immediately before the irregularity cannot be identified, the game shall continue from the last identifiable position prior to the irregularity. The clocks shall be adjusted according to Article 6.14. The game shall then continue from this re-instated position.

Article 8: The recording of the moves

8.1

In the course of play each player is required to record his own moves and those of his opponent in the correct manner, move after move, as clearly and legibly as possible, in the algebraic notation (Appendix E), on the 'scoresheet' prescribed for the competition. A player may reply to his opponent's move before recording it, if he so wishes. He must record his previous move before making another. Both players must record the offer of a draw on the scoresheet. (Appendix E.12)
If a player is unable to keep score, an amount of time, decided by the arbiter, shall be deducted from his allotted time at the beginning of the game.

8.2

The scoresheet shall be visible to the arbiter throughout the game.

8.3

The scoresheets are the property of the organisers of the event.

8.4

If a player has less than five minutes left on his clock and does not have additional time of 30 seconds or more added with each move, then he is not obliged to meet the requirements of Article 8.1. Immediately after one flag has fallen the player must update his scoresheet completely before moving a piece on the chessboard.

8.5

1. If neither player is required to keep score under Article 8.4, the arbiter or an assistant should try to be present and keep score. In this case, immediately after one flag has fallen, the arbiter shall stop the clocks. Then both players shall update their scoresheets, using the arbiter's or the opponent's scoresheet.

2. If only one player is not required to keep score under Article 8.4 he must, as soon as either flag has fallen, update his scoresheet completely before moving a piece on the chessboard. Provided it is the player's move, he may use his opponent's scoresheet, but must return it before making a move

3. If no complete scoresheet is available, the players must reconstruct the game on a second chessboard under the control of the arbiter or an assistant. He shall first record the actual game position, clock times and the number of moves made, if this information is available, before reconstruction takes place.

8.6

If the scoresheets cannot be brought up to date showing that a player has overstepped the allotted time, the next move made shall be considered as the first of the following time period, unless there is evidence that more moves have been made.

8.7

At the conclusion of the game both players shall sign both scoresheets, indicating the result of the game. Even if incorrect, this result shall stand, unless the arbiter decides otherwise.

Article 9: The drawn game

9.1

1. A player wishing to offer a draw shall do so after having made a move on the chessboard and before stopping his clock and starting the opponent's clock. An offer at any other time during play is still valid, but Article 12.5 must be considered. No conditions can be attached to the offer. In both cases the offer cannot be withdrawn and remains valid until the opponent accepts it, rejects it orally, rejects it by touching a piece with the intention of moving or capturing it, or the game is concluded in some other way.

2. The offer of a draw shall be noted by each player on his scoresheet with a symbol (See Appendix E).

3. A claim of a draw under 9.2, 9.3 or 10.2 shall be considered to be an offer of a draw.

9.2

The game is drawn, upon a correct claim by the player having the move, when the same position, for at least the third time (not necessarily by sequential repetition of moves)

1. is about to appear, if he first writes his move on his scoresheet and declares to the arbiter his intention to make this move, or

2. has just appeared, and the player claiming the draw has the move.

Positions as in (a) and (b) are considered the same, if the same player has the move, pieces of the same kind and colour occupy the same squares, and the possible moves of all the pieces of both players are the same.
Positions are not the same if a pawn that could have been captured en passant can no longer be captured or if the right to castle has been changed temporarily or permanently.

9.3

The game is drawn, upon a correct claim by the player having the move, if

1. he writes on his scoresheet, and declares to the arbiter his intention to make a move which shall result in the last 50 moves having been made by each player without the movement of any pawn and without the capture of any piece, or

2. the last 50 consecutive moves have been made by each player without the movement of any pawn and without the capture of any piece.

9.4

If the player makes a move without having claimed the draw he loses the right to claim, as in Article 9.2 or 9.3, on that move.

9.5

If a player claims a draw as in Article 9.2 or 9.3, he shall immediately stop both clocks. He is not allowed to withdraw his claim.

1. If the claim is found to be correct the game is immediately drawn.

2. If the claim is found to be incorrect, the arbiter shall add three minutes to the opponent's remaining time. Additionally, if the claimant has more than two minutes on his clock the arbiter shall deduct half of the claimant's remaining time up to a maximum of three minutes. If the claimant has more than one minute, but less than two minutes, his remaining time shall be one minute. If the claimant has less than one minute, the arbiter shall make no adjustment to the claimant's clock. Then the game shall continue and the intended move must be made.

9.6

The game is drawn when a position is reached from which a checkmate cannot occur by any possible series of legal moves, even with the most unskilled play. This immediately ends the game.

Article 10: Quickplay Finish

10.1

A 'quickplay finish' is the last phase of a game, when all the remaining moves must be made in a limited time.

10.2

If the player, having the move, has less than two minutes left on his clock, he may claim a draw before his flag falls. He shall stop the clocks and summon the arbiter.

1. If the arbiter agrees the opponent is making no effort to win the game by normal means, or that it is not possible to win by normal means, then he shall declare the game drawn. Otherwise he shall postpone his decision or reject the claim.

2. If the arbiter postpones his decision, the opponent may be awarded two extra minutes thinking time and the game shall continue in the presence of an arbiter, if possible. The arbiter shall declare the final result after a flag has fallen.

3. If the arbiter has rejected the claim, the opponent shall be awarded two extra minutes thinking time.

4. The decision of the arbiter shall be final relating to 10.2 a, b, c.

10.3

If both flags have fallen and it is impossible to establish which flag fell first the game is drawn.

Article 11: Scoring

11.1

Unless announced otherwise in advance, a player who wins his game, or wins by forfeit, scores one point (1), a player who loses his game, or forfeits scores no points (0) and a player who draws his game scores a half point (1/2).

Article 12: The conduct of the players

12.1

The players shall take no action that will bring the game of chess into disrepute.

12.2

During play the players are forbidden to make use of any notes, sources of information, advice, or to analyse on another chessboard.
The scoresheet shall be used only for recording the moves, the times of the clocks, the offer of a draw, and matters relating to a claim.

12.3

Players who have finished their games shall be considered to be spectators.

12.4

Players are not allowed to leave the 'playing venue' without permission from the arbiter. The playing venue is defined as the playing area, rest rooms, refreshment area, area set aside for smoking and other places as designated by the arbiter.
The player having the move is not allowed to leave the playing area without permission of the arbiter.

12.5

It is forbidden to distract or annoy the opponent in any manner whatsoever. This includes unreasonable claims or offers of a draw.

12.6

Infraction of any part of the Articles 12.1 to 12.5 shall lead to penalties in accordance with Article 13.4.

12.7

Persistent refusal by a player to comply with the Laws of Chess shall be penalised by loss of the game. The arbiter shall decide the score of the opponent.

12.8

If both players are found guilty according to Article 12.7, the game shall be declared lost by both players.

Article 13: The role of the arbiter (see Preface)

13.1

The arbiter shall see that the Laws of Chess are strictly observed.

13.2

The arbiter shall act in the best interest of the competition. He should ensure that a good playing environment is maintained and that the players are not disturbed. He shall supervise the progress of the competition.

13.3

The arbiter shall observe the games, especially when the players are short of time, enforce decisions he has made and impose penalties on players where appropriate.

13.4

The arbiter can apply one or more of the following penalties:

1. warning,
2. increasing the remaining time of the opponent,
3. reducing the remaining time of the offending player,
4. declaring the game to be lost,
5. reducing the points scored in a game by the offending party,
6. increasing the points scored in a game by the opponent to the maximum available for that game,
7. expulsion from the event.

13.5

The arbiter may award either or both players additional time in the event of external disturbance of the game.

13.6

The arbiter must not intervene in a game except in cases described by the Laws of Chess. He shall not indicate the number of moves made, except in applying Article 8.5, when at least one player has used all his time. The arbiter shall refrain from informing a player that his opponent has completed a move.

13.7

Spectators and players in other games are not to speak about or otherwise interfere in a game. If necessary, the arbiter may expel offenders from the playing venue.

Article 14: FIDE

14.1

Member federations may ask FIDE to give an official decision about problems relating to the Laws of Chess.

ELO rating system

The **ELO rating system** is a method for calculating the relative strength of chess players. ELO is often written in capital letters, but is not an acronym. It is the family name of the system's creator, Arpad Elo (born 1903), a Hungarian-born American physics professor. "ELO" is written in uppercase to distinguish it from Professor Elo.

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1 Previous ratings systems

2 Elo's rating system model

3 Implementing Elo's scheme

4 Comparative ratings

5 Mathematical Details

Previous ratings systems

Elo was a master-level chess player and an active participant in the United States Chess Federation from its founding in 1939. The USCF used a numerical ratings system, devised by Kenneth Harkness, to allow members to track their individual progress in terms other than tournament wins and losses. The Harkness system was reasonably fair, but in some circumstances gave rise to substantially inaccurate ratings. On behalf of the USCF, Elo devised a new system with a statistical basis.

Estimating the true skill of a player is slippery, because chess performance can never be directly measured. One can't look at a sequence of moves and say, "That performance is 1439," or anything similar. Performance can only be inferred from wins, draws and losses. If a player wins a game, he is assumed to have performed at a higher level than his opponent for that game. Conversely if he loses, he is assumed to have performed at a lower level. If the game is a draw, the two players are assumed to have performed at nearly the same level.

Elo's rating system model

Elo suggested estimating the true skill of players by updating their ratings when they won or lost against other players, based on a comparison with the other player's ratings. If a player won more games than he was expected to win, his rating would be adjusted upward, while if he won fewer games than expected his rating would be adjusted downward.

Elo's central assumption was that the chess "performance" of any given player in any given game would be a hypothetical normally distributed random variable, with a mean value that represented the player's true skill, and would change only slowly. Given this mathematical model of chess play, the aim of the Elo rating was an attempt to estimate that mean value for each player, by considering the observable data of wins, losses and draws.

Implementing Elo's scheme

The USCF implemented Elo's suggestions in 1960, and the system quickly gained recognition as being more fair and accurate than the Harkness system. Elo's system was adopted by FIDE in 1970. Elo described his work in some detail in the book "The Rating of Chessplayers, Past and Present", published in 1978.

Subsequent statistical tests have shown that chess performance is almost certainly not normally distributed. Weaker players have significantly greater winning chances than Elo's model predicts. Therefore, both the USCF and FIDE have switched to systems based on the logistic distribution. However, in deference to Elo's contribution, both organizations are still commonly said to use "the Elo system".

Comparative ratings

Because Elo's general ideas have been adopted by many different organizations (including the Internet Chess Club (ICC), Yahoo! Games, and the now defunct Professional Chess Association (PCA)), and because each organization has a unique implementation different from Elo's original suggestions, it is ambiguous and perhaps misleading to refer to a player's "ELO rating". It is more precise to refer to the organization granting the rating, e.g. "As of August 2002, Gregory Kaidanov had a FIDE rating of 2638 and a USCF rating of 2742." It should be noted that the Elo ratings of these various organisations are not always directly comparable (USCF ratings are in general about 100 points higher than FIDE ratings, for example).

The following analysis of the July 2003 FIDE rating list gives a rough impression of exactly what having an Elo rating of 2638 (or anything else) means:

- 1 player (Gary Kasparov) has a rating of 2800 or above
- 16 players have a rating of 2700 or above
- 113 players have a rating of 2600 or above
- a player rated 2500 or above is likely to have the Grandmaster title
- a player rated between 2400 and 2499 is likely to have the International Master title

The highest ever FIDE Elo rating was 2851, which Gary Kasparov had on the July 1999 and January 2000 lists.

Mathematical Details

Performance can't be measured absolutely, it can only be inferred from wins and losses. Ratings therefore have meaning only relative to other ratings. Both the average and the spread of ratings can be arbitrarily chosen. Elo suggested scaling ratings so that a difference of 200 rating points would mean that the stronger player has an expected score of approximately 0.75, and the USCF initially aimed for an average club player to have a rating of 1500.

A player's expected score is his probability of winning plus half his probability of drawing. Thus an expected score of 0.75 could represent a 75% chance of winnning, 25% chance of losing, and 0% chance of drawing. On the other extreme it could represent a 50% chance of winning, 0% chance of losing, and 50% chance of drawing. The probability of drawing, as opposed to having a decisive result, is not specified in the ELO system. Instead a draw is considered half a win and half a loss.

If Player A has true strength R_A and Player B has true strength R_B, the exact formula (using the logistic curve) for the expected score of Player A is

$$E_A = \frac{1}{1 + 10^{\frac{R_B - R_A}{400}}}$$

Similarly the expected score for Player B is

$$E_B = \frac{1}{1 + 10^{\frac{R_A - R_B}{400}}}$$

Note that $E_A + E_B = 1$. In practice, since the true strength of each player is unknown, the expected scores are calculated using the player's current ratings.

When a player's actual tournament scores exceed his expected scores, the ELO system takes this as evidence that that player's rating is too low, and needs to be adjusted upward. Similarly when a player's actual tournament scores fall short of his expected scores, that player's rating is adjusted downward. Elo's original suggestion, which is still widely used, was a simple linear adjustment proportional to the amount by which a player outperformed or underperformed his expected score. The maximum possible adjustment per game (sometimes called the K-value) was set at K=16 for masters and K=32 for weaker players.

Supposing Player A was expected to score E_A points but actually scored S_A points. The formula for updating his rating is

$$R'_A = R_A + K(S_A - E_A)$$

This update can be performed after each game or each tournament, or after any suitable rating period. An example may help clarify. Suppose Player A has a rating of 1613, and plays in a five-round tournament. He loses to a player rated 1609, draws with a player rated 1477, defeats a player rated 1388, defeats a player rated 1586, and loses to a player rated 1720. His actual score is (0 + 0.5 + 1 + 1 + 0) = 2.5. His expected score, calculated according the formula above, was (0.506 + 0.686 + 0.785 + 0.539 + 0.351) = 2.867. Therefore his new rating is (1613 + 32*(2.5 - 2.867)) = 1601.

Note that while two wins, two losses, and one draw may seem like a par score, it is worse than expected for Player A because his opponents were lower rated on average. Therefore he is slightly penalized. If he had scored two wins, one loss, and two draws, for a total score of three points, that would have been slightly better than expected, and his new rating would have been (1613 + 32*(3 - 2.867)) = 1617.

This updating procedure is at the core of the ratings used by FIDE, USCF, Yahoo Games, the ICC, and FICS. However, each organization has taken a different route to deal with the uncertainty inherent in the ratings, particularly the ratings of newcomers, and to deal with

the problem of ratings inflation/deflation. New players are typically assigned provisional ratings which are adjusted more drastically than established ratings, and various methods (none completely successful) have been devised to inject points into the rating system so that ratings from different eras are roughly comparable.

The principles used in these rating system can be used for rating other competitions - for instance, international football matches.

Draw

Perpetual Check

In chess, a **draw** is one of the possible outcomes of a game (the others being a win for white and a win for black). In tournaments, wins are worth one point to the victor and none to the loser, while draws are worth one-half point to each player.

In games played at the top level, a draw is the most common outcome of a game: of around 22,000 games published in *The Week In Chess* played between 1999 and 2002 by players with a FIDE Elo rating of 2500 or above, 55% were draws. It is generally believed that a perfectly played game of chess will always result in a draw. At lower levels of play, the frequency of draws falls: of around 40,000 games with players both rated between 2300 and 2499 in the same time-frame, only 45% ended in a draw, and of around 22,500 games involving players rated between 2100 and 2299 the figure is an even lower 34%.

Rule 5.2 of the official FIDE laws of chess detail the ways a game may end in a draw:

1. Stalemate - if the player on turn has no legal move but is not in check, this is stalemate and the game is a draw.

2. Impossibility of checkmate - if a position arises in which neither player could possibly give checkmate by a series of legal moves (because there is insufficient material left, as for example, king and bishop against king), the game is a draw.

3. Mutual agreement - a player may offer a draw to his opponent at any stage of a game; if the opponent accepts, the game is a draw. Article 9.1 of the laws of chess states that the draw should be offered after making a move and before pressing the clock, but that a draw offered at any other time during the game is valid so long as it does not distract an opponent. Once made, a draw offer cannot be retracted, and is valid until rejected. A draw may be rejected either verbally or by making a move.

4. Three-fold repetition - if an identical position has occurred three times, or will occur after the player on turn makes his move, the player on move may claim a draw (note that in this case the draw is not automatic - a player must claim it). Article 9.2 states that a position is considered identical to another if the same

player is on move, the same pieces of the same colour occupy the same squares, and the same moves are available to each player (that is, each player has the same castling and *en passant* pawn capturing rights).

5. Fifty move rule - if fifty moves have passed with no pawn being moved and no capture being made, a draw may be claimed (again, the draw is not automatic).

It is popularly considered that perpetual check - where one player gives a series of checks from which the other player cannot escape - is a draw, but in fact there is no specific provision for this in the laws of chess. However, any perpetual check situation will eventually be claimable as a draw either under the fifty move rule or by three-fold repetition.

In addition to the above five ways, article 10 of the FIDE laws of chess states that when a player has less than two minutes left on their clock during a rapidplay finish (the end of a game when all remaining moves must be completed within a limited amount of time), they may claim a draw if their opponent is not attempting to win the game by "normal means" or cannot win the game by "normal means". "Normal means" can be taken to mean the delivery of checkmate or the winning of material. In other words, a draw is claimable if the opponent is merely attempting to win on time, or cannot possibly win except by on time. It is up to the arbiter to decide whether such a claim will be granted or not.

It should be noted that although these are the laws as laid down by FIDE and, as such, are used at almost all top-level tournaments, at lower levels different rules may operate, particularly with regard to rapidplay finish provisions.

Discouragement of draws by agreement

Although many games logically end in a draw after a hard-fought battle between the players, there have been attempts throughout history to discourage or completely disallow draws. In many World Championship matches, draws have not counted, the winner instead being the first player to win a particular number of games (this rule was most recently dropped after the 1984 match between Anatoly Karpov and Garry Kasparov was abondoned without result after 48 games with neither player winning the required six). Similarly, in the very first international round-robin tournament in London in 1862, drawn games had to be replayed until there was a decisive result.

More recently, there has been concern in some quarters about agreed draws in positions which are very unclear and in which either player could still play for a win. This may be for a number of reasons: in the last round of a tournament, for example, two players who are tying for the lead may agree a quick draw in order to guarantee a share of first place; one of the players may be short of time and so agree a draw to avoid losing on time or blundering in time trouble; or the players may simply not be in the mood to fight for a win, and so take a draw to effectively have a day off.

Because such quick draws are widely considered unsatisfactory both for spectators (who may only see half-an-hour of play with nothing very interesting happening) and sponsors (who suffer from decreased interest in the media), various measures have been adopted over the years to discourage players from agreeing draws. For example, a small number of tournaments in the past have adopted an alternative scoring system, whereby a win is worth three points, while a draw is worth only one (a recent tournament using such a system was Lippstadt 2003). Similarly, there have been proposals that certain kinds of draw should be worth more points than others - for example, awarding only half a point for an agreed draw, but three quarters of a point for a side delivering stalemate (one quarter of a point going to the side who is stalemated). These proposals have never been widely adopted.

The 2003 Generation Chess International Tournament in New York City had a rule that draws could not be agreed before move 50 (draws by other means, such as three-fold repition or stalemate, were permissible at any stage). Players agreeing to premature draws were to be fined 10% of their appearance fee and 10% of any prize money won. In a similar vein, the tournament organiser Luis Rentero (best known for organising the very strong tournaments in Linares) has sometimes enforced a rule whereby draws cannot be agreed before move 30.

The respected chess trainer Mark Dvoretsky, writing in a column for the Chess Cafe website, suggested that agreed draws should not be allowed at all, pointing out that such an agreement cannot be reached in other sports such as boxing. Although some have claimed that outlawing agreed draws entirely requires players to carry on playing in "dead" positions (where no side can reasonably play for a win), Dvoretsky says that this is a small problem and that the effort required to play out these positions until a draw can be claimed by reptition or lack of material, for example, is minimal. He also suggests that draw offers could be allowed if sent through an arbiter - if the arbiter agrees that a position is a dead draw, he will pass the draw offer on to the opponent who may either accept or decline it as usual; if the arbiter believes there is still something to play for in the position, the draw offer is not permitted.

There is no indication that any of these proposals will be adopted by FIDE in the near future, and it seems likely that except in specific tournaments expressly forbidding them, draw offers will continue to be allowed at any stage of the game.

Perpetual check

In the game of chess, **perpetual check** is a special case of draw by repetition, in which one player forces the repetition by a repeated series of checks. See rules of chess and draw (chess) for details of draw by repetition.

Strategy & Tactics

Terminology | Sample Chess Game | Tactics | Chess Opening | Hypermodernism | Endgames

Chess strategy and tactics

One of the charms of the game of chess is the interplay between tactics and strategy. *Tactics* refers to "traps", "tricks" or "combinations" that achieve checkmate or material advantage within a few moves (more or less) while *strategy* refers to achieving long-term goals through the proper development or arrangement of the pieces on the board in the absence of any short-term opportunities.

In describing tactics and strategy, we will use the algebraic chess notation.

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4 Further reading

Values of the pieces

One thing that applies both strategically and tactically is material advantage. If you command more pieces, or more powerful pieces, than your opponent, you will have greater opportunity.

A knight is about as valuable as a bishop (these two are called **minor pieces**), but less valuable than a rook, and less still than a queen (rooks and queens are called **major pieces**).

Three pawns are likely to be more useful than a knight in the endgame, but in the middlegame a knight is often more powerful. Two minor pieces are stronger than a single rook. Two rooks are stronger than a queen, but not by much.

One commonly used simple scoring system is 1 point for a pawn, 3 for a knight or bishop, 5 for a rook, and 9 for a queen. Under a system like this, giving up a knight or bishop in order to win a rook ("winning **the exchange**") is advantageous and is worth about two pawns. This of course ignores such complications as the current position and freedom of the pieces involved, but it is a good starting point.

Tactics

Attacking and defending pieces

A piece is said to **attack** an opponent's piece if, in the next move, it could capture that piece. A piece is said to **defend** or to **protect** a piece of the defender's color if, in case the defended piece were taken by the opponent, the defender could recapture right away. Attacking a piece forces the opponent to respond only if the attacked piece is undefended, or if the attacking piece is of lower value than the attacked one.

Forks

A **fork** is a move that uses one piece to attack two of the opponent's pieces at the same time, hoping to achieve material advantage (because the opponent can only counter one of the two threats). Knights are often used for forks: they jump to a position from where they attack two pieces. A quite common situation is a white knight jumping to c7, thereby threatening both the rook at a8 and the king at e8. Such "king forks" are particularly effective, because the opponent is forced by the rules of the game to counter the threat to his king; he cannot choose to defend the other piece, and he cannot use a *zwischenzug* (see below) to complicate the situation. Pawns can also fork enemy pieces: by moving a pawn forward, it may attack two pieces: one diagonally to the left and one diagonally to the right. A common situation is the move Pawn d2-d4 forking a black bishop at c5 and a black knight at e5.

A queen move also often attacks two pieces at the same time, but this is only useful if both pieces are undefended (since the queen is more valuable than the pieces it is attacking, it is usually only profitable for it to capture undefended pieces).

Pins

"The defensive power of a pinned piece is only imaginary." - Nimzovich

A **pin** is a move which forces one of the opponent's pieces to stay put because moving it would expose a more valuable piece behind it. As they move in a straight line, bishops, rooks, and queens can pin other pieces.

In the diagram below left, black can't move his knight without losing his queen, and he can't move his rook at all.

Skewers

A **skewer** is a move which attacks two pieces in a line, similar to a pin, except that the enemy piece of greater value is in front of the enemy piece of lesser value. After the more valuable piece moves away, the lesser piece can be captured. Queens, rooks, and bishops can skewer.

Because of possible pins and skewers, one should be extremely cautious if king and queen are located on the same vertical, horizontal or diagonal line.

Discovered attacks

A **discovered attack** is a move which unmasks an attack by another piece. A piece is moved away so as to unmask the attack of a friendly bishop, rook or queen on an enemy piece. If the attacked piece is the king, we speak of a **discovered check**. Discovered attacks are powerful, because if the moving piece manages to pose a second threat, the opponent is in trouble.

A special case of a discovered check is a **double check**, where both the piece being unmasked and the piece being moved attack the enemy king. A double check requires that your opponent move his/her king as the king is under attack from two directions and it is impossible to counter both at the same time in any other way.

Zwischenzug

The German ***zwischenzug*** means "intermediate move"; it is a common tactic that occurs in almost every game: instead of countering a direct threat, which the opponent expects, a move is played which poses an even more devastating threat, often an attack against the queen or the king. The opponent has to counter that threat first, and this will ideally change the situation to his disadvantage.

When you plan your tactics, you should always watch out for a *zwischenzug*. Don't assume that the opponent has to counter your threats immediately. It is good practice to always check whether your opponent has a check or a move threatening your queen. Conversely, anticipate your opponent's threats and plan a surprising *zwischenzug*.

Sacrifices

Often it is necessary to throw the opponent's position out of balance by first **sacrificing** some material, to be regained with interest a couple of moves later. Pawn sacrifices in the opening are known as ***gambits***; they are usually not intended for material short-term gain but instead to achieve a more active position.

Direct attacks against the enemy king are often started by sacrifices; a common example is a bishop sacrificing itself on h7, checking the king on g8 who has to take the bishop, after which the white queen and knight develop a fulminant attack.

Attacks against the king

Attacks against the castled king are usually justified by some imbalance: you have more firepower on the king's side than your opponent, or the opponent weakened his king's position by moving one of the pawns in front of the king.

Many mating attacks are introduced by sacrifices: if mate is the goal, material doesn't matter anymore. The queen is almost always the most important piece in a mating attack, since she has various ways of mating a king. The most common of which is a direct "contact check" while being protected by one of her own pieces, for instance white knight g5, black king on g8 and the queen mates at h7, or white bishop at f6 or h6 and the white queen on g7 mates the black king on g8.

Don't assume that every move in a mating attack has to be a check. Often, a check just drives the king to a better position, or weakens your own setup. Try to find "quiet" moves which seal the deal.

Strategy

Opening

For beginners, it is not helpful to memorize opening moves; instead, by following a handful of principles, one can quite easily achieve a decent position for the middle game.

The most important part of the board is the center (e4, d4, e5, d5). It is essential to place pawns in the center or to control it in some other way. Another major goal of the opening is to move the king away from the dangerous center and achieve castling. Every move should contribute to these goals and one should avoid losing time by making useless moves such as

h7-h6. The white knights are usually developed to c3 and f3. The queen should avoid moving too early and too far into enemy territory, because otherwise the opponent will be able to gain time by playing developing moves which at the same time threaten the queen. Once castling has been achieved, the remaining bishops and knights should be developed so that the rooks on the first row become connected and can operate more effectively. This usually ends the opening phase of the game.

For more detailed notes on the various openings, see Chess opening.

Space

All other things being equal, the side which controls more space on the board has an advantage. More space translates into more options, which can be exploited both tactically and strategically. So if all your pieces are developed and you don't see any tactical tricks or a promising long-term plan, try to find a move which will enlarge your influence, particularly in the center.

Defending pieces

In general, it is a good idea to defend your pieces, even if they are not currently attacked. This way, many tactical tricks of the opponent won't work. Conversely, if you spot undefended pieces of the opponent, you should think about exploiting the situation with a tactical combination.

Exchanging pieces

To **exchange** pieces means to capture a hostile piece and allowing a piece of the same value to be captured by the opponent. As a general rule of thumb, exchanging pieces eases the task of the defender who typically has less room to operate in.

If you have a material advantage, exchanging pieces is desirable, since in the endgame even a single pawn can decide the game.

When playing against stronger players, many beginners attempt to constantly exchange pieces "to simplify matters"; this is a poor strategy. Stronger players are normally *much* stronger in the endgame, while during a complicated middlegame even they can make mistakes.

(Note that "winning the exchange" has a special meaning as mentioned above: winning a rook for a bishop or knight.)

Knights

Knights are easily chased away with pawn moves. Therefore it is important to spot "holes" in the enemy position where a knight cannot be attacked, because the pawns have already moved past. Once such a hole is identified, a knight should be maneuvered to that location. An unchallengable knight on the fifth row is a strong asset, and a supported knight on the sixth row usually decides the game. Unless there is a good reason for it, knights shouldn't be placed at the borders (and never in the corners) of the board, because there they control far fewer squares and can often be captured.

Pawns

Pawns are most powerful if they come in groups on contiguous files. Isolated pawns, those without pawns of the same color on adjacent files, are often weak and also provide a nice spot for an enemy knight ahead of them. If your opponent has an isolated pawn, first try to block it by placing a piece ahead of it, and then attack it with rooks. The same should be done with opponent's pawns that were "left behind" (**backward pawns**), meaning that the pawns on the neighboring files have already advanced.

Two pawns of the same color on the same file are called **doubled pawns**; they are weak, especially so if they are also isolated, because they cannot protect each other and because they hinder each other's advancement. Three pawns in one file are called **tripled pawns**; they are even worse.

In the endgame, **passed pawns**, those which cannot be hindered by enemy pawns from promotion, are strong, especially if they are advanced. A passed pawn on the sixth row is roughly as strong as a knight or bishop and will often decide the game.

Bishops

A bishop always stays on squares of the color it started on. This is not a big concern if you still have both bishops, but once one of them is gone, you should keep in mind that you now have a hard time attacking or defending squares of the wrong color. If you have only one bishop left, you typically want to move your pawns to squares of the other color so that they don't block the bishop and so that the enemy pawns are stuck on the right color and can be attacked.

If you don't see a good square for development of a bishop, you can consider a ***fianchetto***: pawn g2-g3 and bishop f1-g2. This forms a strong defense for the castled king on g1 and the bishop can often exert pressure on the long diagonal h1-a8. After a fianchetto, you should not give up the bishop too easily, because then the holes around the king can easily prove fatal.

To decide whether in a given position a knight or a bishop is more powerful, several aspects have to be taken into account: if the game is "closed" with lots of interlocked pawn formations, the knight will be stronger, because it can hop over the pawns while the bishop

is blocked by them. A bishop is also weak if it is permanently blocked by his own pawns, which are arrested on the wrong color. In an open game with action on both sides of the board, the bishop will be stronger because of its long range. This is especially true in the endgame, if passed pawns race on opposite sides of the board, the bishop will usually win over the knight here.

An endgame in which the parties have bishops that live on different colors is almost always drawn, even if one side is two pawns ahead.

Rooks

Rooks are most powerful on half-open files -- files which don't contain pawns of your own color. They are also useful on open files without any pawns in order to penetrate into enemy territory, most likely to the seventh row, where they can attack pawns sideways and lock in the enemy king.

In the endgame, if there is a passed pawn which is a candidate for promotion, the rocks, both friend and foe of the pawn, belong *behind* the pawn rather than in front of it.

King

During the middle game, the king mostly stays in a corner behind his pawns. Moving these pawns should be avoided because that weakens the king's position. However, as the rooks leave the first row, there is a danger of an enemy rook invading the first row and mating the king, so sometimes it is necessary to move one of the pawns in front of the king to counter these mate threats.

In the endgame, the king becomes a strong piece. With reduced material, mate is not an immediate concern anymore, and the king should be moved towards the center of the board.

The Endgame

Once most pieces have been exchanged off the board, it becomes impossible to mount direct attacks on the king. In this situation, the focus of the game switches to attempting to bring a pawn to the eighth rank and promote it, usually to a queen, while preventing one's opponent from doing so. The promoted queen, provided it is not immediately captured by the opponent, is enough to ensure a win.

If only one pawn is left (and maybe one other piece on either side), then both players should attempt to direct their kings *in front* of the pawn in order to gain influence, keep the other king away and ensure (or prevent) the pawn's promotion.

In endgames that involve only kings and pawns, the concept of **opposition** is important: by moving to a square which is horizontally, vertically or diagonally two squares away from the

enemy king, one "gains" the opposition. This is an advantage, because it forces the enemy king to give way.

Sometimes, all pawns will be eliminated from the board and one player will be left with a king and some combinations of rooks, knights and bishops against a lone king. These give rise to the elementary end games:

- King and queen vs. king
- King and rook vs. king
- King and two bishops vs. king
- King, bishop and knight vs. king

The first two are relatively easy to learn and very commonly arise in games. Many beginners, notably children, fail to win games simply because they have never learned these procedures. The other two require more skill, but arise much less frequently. A king and one minor piece is never enough to force a win and thus the game will be a draw. A king with two knights against a king is also insufficient to force a win; however, since this inability is partly a result of poor timing inherent in the knight's awkward moves there are circumstances where a win can be forced if the opponent also has a pawn.

Further reading

- John Nunn: *Understanding Chess move by move*, Gambit 2001. A top player explains the thinking behind every single move of several master class games.
- Jeremy Silman: *The Amateur's Mind: Turning Chess Misconceptions into Chess Mastery*, Siles Press 1999. A chess teacher analyzes and corrects the thinking of advanced beginners.
- James Eade: *Chess for Dummies*. As comprehensive as one can get for beginners, this book in the familiar yellow format has the added advantage of being generally available in bookstores that know nothing about chess.

Terminology

Check | Underpromotion

Chess terminology

This page explains commonly used terms in chess in alphabetical order. Some of these have their own pages, like Fork and pin. For a list of unorthodox chess pieces, see fairy chess piece; for a list of terms specific to chess problems, see chess problem terminology.

See also: Sample chess game

A | B | C | D | E | F | G | H | I | K | L | M | N | O | P | Q | R | S | T | Z

A

- **Annotation**: Describing a game using a combination of written comments, chess symbols or notation.

B

- **Back rank**: For white, the first rank and for black, the eighth.
- **Back rank mate**: A checkmate delivered by a rook or queen along a back rank in which the mated king is unable to move up the board because the king is blocked by friendly pieces (usually pawns) on the second rank.
- **Bad bishop**: A bishop which is hemmed in by pawns of its own color.
- **Blitz chess**: A form of chess with a very small time limit, usually 3 or 5 minutes per player. With the advent of electronic chess clocks, it is often the case that the time remaining is incremented by 1 or 2 seconds per move.
- **Blunder**: A very bad move, an oversight.

C

- **Castling**: A special move involving the king and one rook. See castling.
- **Center**: The 4 squares in the middle of the board.
- **Checkmate**: A position in which a player's king is in check and the player has no legal move (i.e cannot move out of check). A player whose king is checkmated loses the game.

- **Combination**: A clever sequence of moves, often involving a sacrifice, to gain the advantage.

D

- **Diagonal**: A line of squares along which a bishop moves.
- **Discovered check**: When one piece moves out of the way to enable another piece to give check.
- **Double check**: When a king is in check by two pieces at the same time. A double check must necessarily be a discovered check.
- **Doubled rooks**: Two of a player's rooks placed on the same (open) file.
- **Doubled pawns**: A pair of pawns (of the same color) on the same file.

E

- **En passant (from the french)**: The rule that allows a pawn that has just advanced two squares to be captured by a pawn on the same rank and adjacent file.
- **En prise (from the french)**: A piece that can be captured. Usually used of a piece that is undefended and can be captured.
- **Exchange**:
    - The capture of a pair of pieces, one white and the other black, usually of the same type (i.e rook for rook, knight for knight etc).
    - The advantage of a rook over a minor piece. The player who captures a rook while losing a minor piece is said to have won the exchange, and his opponent is said to have lost the exchange.

F

- **Fianchetto**: The development of the bishop to the second square on the file of the adjacent knight (that is, b2 or g2 for white, b7 or g7 for black).
- **File**: A column of the chessboard.
- **Fork**: When one piece simultaneously attacks two of the opponent's pieces. See Fork.

G

- **Gambit**: A sacrifice (usually of a pawn) in the opening.
- **Good bishop**: A bishop which has high mobility, typically because the player's pawns are on squares of color opposite to that of the bishop.

H

- **Hole**: A hole (for one player) is a square that the player does not, and cannot in future, control with one of his pawns.

I

- **Isolated pawn**: A pawn with no pawn of the same color on an adjacent file.

K

- **King-side**: The side of the board where the kings are at the start of the game, as opposed to the *queen-side*.

L

- **Long diagonal**: One of the two diagonals of length 8.

M

- **Major piece**: A queen or rook.
- **Majority**: A player has a majority of pawns on one flank when his pawns on that flank outnumber the opponent's.
- **Material**: The (estimated) value of a player's pieces. The player with more pieces is said to have a "material advantage".
- **Minor piece**: A bishop or knight.

N

- **Novelty**: A new move in the opening.

O

- **Open file**: A file on which there are no pawns. Sometimes used to refer to a file on which one player has no pawns.
- **Outside passed pawn**: A passed pawn on one of the rook files.

P

- **Passed pawn**: A pawn that has no pawn of the opposite color on its file or on one of the adjacent files on its way to queening.
- **Pawn structure**: Pawns being the least mobile of the pieces, the position of the pawns influences the character of the game. The type of placement of the pawns is known as the pawn structure.
- **Perpetual check**: A player forces a draw by repeatedly putting the opponent's king under check in such a way that the opponent cannot avoid getting into check.
- **Pin**: When a piece can not move because doing so would expose a valuable piece, usually the king, to attack. See Pin.
- **Promotion**: Advancing a pawn to the eighth rank, converting it to a queen, rook, bishop or knight. Promotion to a piece other than a queen is called underpromotion.
- **Protected passed pawn**: A passed pawn that is supported by another pawn.

Q

- **Queen-side**: The side of the board where the queens are at the start of the game, as opposed to the *king-side*.
- **Queening**: Promotion to a queen. Also called Promotion. Actually 'Queening' may be promotion to a knight, rook, or bishop as well.

R

- **Rank**: A row of the chessboard.
- **Rapid chess**: A form of chess with reduced time limit, usually 30 minutes per player.

S

- **Sacrifice**: When one player voluntaily gives up material in return for an advantage such as space, development (like forcing the opponent into a particular move), or an kingside attack.
- **Skewer**: An attack to a valuable piece to compel it to move to avoid capture and expose a less valuable piece which can then be taken by the attacker. Sometimes called a **Thrust**.

- **Smothered mate**: A checkmate delivered by a knight in which the mated king is unable to move owing to it being surrounded (or *smothered*) by its own pieces. See smothered mate.

- **Stalemate**: A position in which a player's king is not in check and the player has no legal move. A game is drawn if one of the kings is stalemated. See stalemate.

T

- **Tempo**: An extra move, an initiative at development. A player gains a tempo (usually in the opening) by making the opponent move the same piece twice or defend one of his pieces. Pl: tempi.

- **Threefold repetition**: The game is drawn if the same position occurs three times with the same player to move, and with each player having the same set of legal moves each time. (The latter includes the right to take en passant and the right to castle).

- **Thrust**: See **Skewer** above.

- **Touched piece rule**: A player who picks up one of his pieces (or touches it) is obliged to move that piece.

- **Triangulation**: A technique used in king and pawn endgames to lose a tempo and gain the opposition.

Z

- **Zugzwang**: When a player is put at a disadvantage by having to make a move. Usually occurs in the endgame, and rarely in the middlegame. See zugzwang.

- **Zwischenzug**: An "in-between" move thrown in before an expected reply.

Check

In games such as chess, shogi and xiangqi, a **check** is an immediate threat to capture the king. A king so threatened is said to be *in check*.

Underpromotion

In chess, **underpromotion** is promotion of a pawn that has reached the eighth rank to any piece other than a queen; that is a rook, a bishop or a knight.

Because the queen is the most powerful chess-piece, it is almost always chosen to replace the promoting pawn. However, promotion to a knight instead can sometimes be useful.

Because the powers of the rook and the bishop are combined in the queen, there is usually little reason to underpromote to them. The most common cases involve avoiding stalemate.

Underpromotion to knight in practical play is rare, and to bishop or rook is even rarer, but in composed chess problems underpromotion occurs more often. An Allumwandlung is a problem where promotions to all four possible pieces occur. An extreme example is the Babson task, where underpromotions by black are countered by matching underpromotions by white (so if black promotes to a rook, so does white, if black chooses a knight, so does white, and so on) - white's underpromotions are the only way to mate black in the stipulated number of moves.

Underpromotion also features in a number of endgame studies, with the Saavedra position perhaps the most famous example.

Sample chess game

This is a sample game of chess, recorded in standard algebraic chess notation, and accompanied by commentary.

White has the first move, and therefore a significant initiative. White wins 10% more often than Black simply on the power of that initiative. It is important not to squander the opening advantage with a move that does nothing.

1. e4

White chooses an excellent move, common among beginners and experts alike. The move has several advantages.

1. It stakes out territory in the center. Whichever player controls the center with pawns will probably be able to find good squares for his pieces.

2. It opens a diagonal for the king's bishop to move out and attack.

3. It opens a diagonal for the queen to move out and attack.

1... e5

This move for Black is good for the same reasons listed above. Note that the two e-file pawns are not threatening to capture each other, because pawns capture diagonally. Instead they merely block each other until something breaks the logjam.

2. Nf3

White makes another fine move. He is mobilizing his forces by bringing a knight forward into attack position. Black's pawn on e5 is now in danger.

White could have moved out his queen instead, but that would be dangerous. The queen is too valuable to trade for any other piece, so it can't do much by itself unless the opponent carelessly leaves pieces unprotected. It is better to wait until there are other pieces in the fray which can serve as shock troops for her highness.

White also could have moved out his light-squared bishop. That would not be a bad idea, but it isn't clear yet whether the bishop wants to be at c4, b5, or possibly even behind the pawns. The knight, on the other hand, usually goes to f3 anyway, because the other squares it could move to are inferior. On h3 it would not attack the center, and on e2 it would be temporarily in the way.

2... f6

Black makes a worthless move. He needed to defend his pawn with 2...Nc6 or counter-attack White's pawn with 2...Nf6. Either knight move would maintain the balance of the game by contesting the center.

The move 2...f6 appears to defend the threatened e-pawn, but this is an illusion, as the game shall demonstrate. Black has weakened his kingside, allowing attacks on the f7 square, which is protected by nothing other than the king itself.

3. Nxe5

White attacks immediately, *sacrificing* his knight for two pawns, although generally White would need three pawns for the knight to have material equality. Although White can't calculate far enough ahead to know exactly how his sacrifice will pay off, he judges that his attack will be at least strong enough to compensate.

3... fxe5

Black makes the only move consistent with his previous plan, but it is not best. The best try for an equal game was 3...Qe7, *skewering* White's knight, pawn, and king. That is to say, the queen would indirectly be attacking everything in the e-file. After the knight moves away, the queen can take on e4 with check, safely regaining the pawn.

Retaking the knight now merely invites White's queen to jump into the fray with check. The fact that Black cannot afford to take the knight shows that 2...f6 did not really protect the pawn at all.

4. Qh5+

The game's first check! There are three legal ways to respond to check:

1. Capture the piece giving check. Here this is impossible, as Black has nothing which can move to h5.

2. Interpose a piece between the king and the piece giving check. Black could play 4...g6. But that would lose a rook to 5.Qxe5+ and 6.Qxh8.

3. Move the king out of check. Moving the king to f7 leaves it in check, and is thus illegal, so e7 is the only square for moving out of check.

Note that White has forked the king on e8 and the pawn on e5. There is no time for Black to protect both, so no matter what he does to get out of check, White's queen can take on e5.

4... Ke7

This move leaves Black in a dangerous position, because his king is so exposed. Furthermore, his rooks, bishops, and queen still have no way to get out. The Black position is no more developed than it was at the start of the game.

5. Qxe5+

Another check. Black now has only one legal move. He can't interpose anything between the king and queen, and he can't take the queen, so he must move his king out of check. There is only one square next to Black's king which White's queen is not attacking.

5... Kf7

White's queen is a dangerous attacker. However, because it is too valuable to trade for anything, it can only take undefended pieces. Everything in Black's camp is defended by something, so the queen has done all it can do by herself. It is time to bring in reinforcements.

6. Bc4+

This is an excellent move to keep the pressure on Black. Because it develops a piece and gives check, White prevents Black from consolidating.

If White played less energetically with 6.Nc3, his advantage would evaporate instantly. Black could answer with 6...Be7, giving the king room to retreat to f8. Once Black gets his king to safety, he might actually be winning. White has only two pawns for the sacrificed knight, which leaves White at a material disadvantage.

6.... d5

Black makes an excellent defensive move. Never forget that moving the king isn't the only way to get out of check!

Admittedly, Black's d-pawn is a dead duck. It is attacked by White's bishop, queen, and pawn, three times altogether, while it is defended only once, by Black's queen. The sacrifice is worthwhile, though, to open up lines for the queen and bishop so they can help with the defense. Now if White fails to find the best continuation, Black has some chance to counter-attack.

7. Bxd5+

White gives check yet again, which prevents Black from doing anything constructive. Let's review the three ways to get out of check:

1. Capture the piece giving check. Black could play 7...Qxd5. But White would simply take queen with 8.Qxd5+. With such a huge material disadvantage and an exposed king, Black could resign without feeling like a quitter.

2. Interpose a piece. Black could play 7...Be6. But that would be inadvisable, because the bishop would be defended only once (by Black's king) and attacked twice (by White's queen and bishop). In fact, White could end the game at once with 8.Qxe6++ checkmate.

3. Move the king. Alas, the only square which is not under attack by White is g6, even further into the open. It beats the alternatives, though.

7... Kg6

Now White must think of a way to continue the attack. He would like to play 8.Qf5+, driving Black's king to h6 where it can be cornered and checkmated, but Black's c8 bishop is guarding the square f5. If Black hadn't interposed with 6...d5, he would now be subject to a forced checkmate. As it stands White has to be more creative to keep the initiative.

8. h4

Again White finds a strong continuation. White is threatening to force the Black king to h6 after all with h5+. Also the pawn protects the g5 square which is important in some mating combinations. Finally, there is some chance the rook will be able to join the attack down the h-file.

8... h5

Black plays a tenacious defense in a precarious situation. White's pawn is blocked from further advances, and the king has a new escape square on h7. Black's position is still precarious, but there is no immediate way for White to force checkmate.

Now let us take a step deeper into chess reasoning. White knows Black is on the run for the moment, but if he has a chance to regroup, the game is far from over. Three pawns for the sacrificed knight is roughly material equality.

If White brings additional forces forward with 9.Nc3 or 9.d4, the obvious developing moves, Black will harass White's queen with 9...Bd6. That would force White to lose time protecting the queen. Black would gain time to get his pieces out and get his king to safety.

White desperately wants a quick kill, but can't see how to get it. He is annoyed that Black's bishop on c8 prevents him from playing 9.Qf5+ and administering the coup de grace. Therefore he asks himself, "What if Black's bishop were not on c8? If only that annoyance were removed, I could do great things."

9. Bxb7

White finds a forceful continuation that puts Black in dire straits. Black's best bet now is to ignore White's bishop and harass White's queen with 9...Bd6, but then White calmly plays 10.Qa5, maintaining the threat on f5 and forcing Black to lose material. One possible line of play is 9...Bd6, 10.Qa5 Nc6, 11.Bxc6 Rb8. The checkmate has been avoided, but now White has a large material advantage (four extra pawns) and can win slowly and surely with patient developing moves like 12.Nc3.

As it happens, Black does not understand the danger. He grabs the bishop for a material advantage of his own (bishop plus knight versus four pawns) and suffers the consequences.

9... Bxb7

10. Qf5+

The crushing move can be unleashed at last. Black has only one legal reply.

10... Kh6

11. d4+

White continues the attack with a special kind of check, the *discovered check*. He moves a pawn, but it isn't the pawn which gives check. It is White's bishop, attacking from its home square, which delivers the blow.

Note that Black's king has no legal moves, and White's bishop is safe from capture, so interposition is the only option.

11... g5

At this point White has an easy win with 12.Bxg5+ Kg7 13.Bxd8. The material advantage of a queen and five pawns for a bishop and a knight is overwhelming. However, weak players have been known to play on in completely hopeless positions rather than resign. In order to forestall a long, boring mop-up operation, White looks for a direct kill.

12. Qf7

Truly a masterful move! White doesn't even call check, but mate is now inevitable.

12... Qe7

Nothing can save Black short of White forgetting his plan, but there is some logic to Black's move. Where can White's queen go? Any of Black's pieces it could take is protected. If White trades queens, then the attack is over, and Black is winning. Finally, if White's queen simply retreats, Black will strike back with a check of his own: 13...Qxe4+!

But White must have foreseen this possibility, or he would never have played 12.Qf7 instead of 12.Bxg5+.

13. hxg5+

Black can't get out of this check by interpostion or by moving the king away. All retreat is cut off by White's well-placed queen. The only option is to capture the checking piece.

13... Qxg5

14. Rxh5++

Checkmate. Black can't interpose anything, because the rook is giving check from an adjacent square. Black's king can't move away, because White's queen covers all retreat squares. Black's king can't capture the rook, because then it would be in check from White's queen. Finally, Black's queen can't capture White's rook because it is pinned. If it moved away, White's bishop on c1 would be giving check to Black's king.

Notice that, although material considerations are very important in chess thinking, one doesn't win by having the most pieces. One wins by delivering checkmate. White was behind in material almost the entire game, including in the final position, but came away with the victory nonetheless.

See also: The Game of The Century, Chess terminology

Tactics

Fork | Pin | Combination

Fork

In chess, a **fork** is a move that uses one piece to attack two of the opponent's pieces at the same time, hoping to achieve material advantage because the opponent can only counter one of the two threats. Knights are often used for forks: they jump to a position from where they attack two pieces. In the diagram to the left, the white knight is forking the black king and rook. It is particularly effective to fork a king: the rules require immediate attention to a threat to the king. In this situation, black cannot choose to defend another piece, he cannot make an intermediate move to complicate the situation; he must move the king, after which white can capture the rook.

Pawns can also fork enemy pieces: by moving a pawn forward, it may attack two pieces: one diagonally to the left and one diagonally to the right.In the diagram, the black pawn is forking the two white rooks. (Remember that by convention the board is oriented with black's first row at the top, so the black pawn is moving downward.)

A queen move also often attacks two pieces at the same time, but this is only useful if both pieces are undefended. Since the queen is more valuable than the pieces it is attacking, it is usually only profitable for it to capture undefended pieces.

A "royal fork" is sometimes used to describe the situation where the King and Queen are forked.

Pin

In chess, a **pin** is a move which forces one of the opponent's pieces to stay put because moving it would expose a more valuable piece behind it or a situation where such a thing has happened.

In the diagram to the left, the black knight is pinned to the king by the white bishop. This is an *absolute pin*, because the rules forbid moving the knight, as it would expose the king to attack.

The black rook is pinning the white knight to the queen. This is a *relative pin*; white is unlikely to move the knight because it risks losing the queen, which is much more valuable--but he still has the choice.

The act of breaking a pin is *unpinning*. This can be executed in a number of ways: the piece effecting the pin can be captured; a piece can be interposed between the pinning unit and the

pinned unit; a piece can be interposed between the pinned unit and the unit to which it is pinned; or the unit to which a piece is pinned can be moved.

A pin that often occurs in openings is the move Bb5 (see algebraic chess notation) which, if black has moved his d-pawn, pins the knight on c6, because moving the knight would expose the king on e8 to check. A common way to win the queen is to pin her to the king with a rook, for instance with a white rook on e1, the black queen on e7 and the black king on e8.

See also: Chess terminology

Combination

In chess, the **combination** is a concept which is probably familiar to students of boxing, wrestling, or some other martial art. Combinations are moves which take into account several tactical ideas; such as forks, pins, skewers, windmills, x-rays, etc.

Chess Opening

Opening List | A00 | Gambit | Defence

The first moves, of a chess game, are the "**opening moves**", collectively referred to as "**the opening**". There are a number of openings, some defensive, and some offensive; some are tactical, and some are strategic; some openings focus on the center, and others focus on the flanks; some approaches are direct, and others are indirect. Opening theory is sufficiently complex that it can take many years of study to master.

In tournament play, the moves of the opening are usually made relatively quickly. A new move in the opening, one that has not been played before, is said to be a "novelty".

For a list of openings as classified by the *Encyclopedia of Chess Openings*, see List of chess openings.

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Aims of the opening

Although a wide variety of moves are played in the opening, the aims behind them are broadly speaking the same. First and foremost, the aim is to avoid being checkmated and avoid losing material, as in other phases of the game. However, assuming neither player makes a blunder in the opening, the main aims include:

1. Development: the pieces in the starting position of a game are not doing anything very useful. One of the main aims of the opening, therefore, is to put them on more useful squares where they will have more of a say in the game. To this end, knights are usually developed to f3, c3, f6 and c6 (or sometimes e2, d2, e7 or d7), and both player's e- and d-pawns are moved so the bishops can be developed (alternatively, the bishops may be *fianchettoed* with a manoeuvre such as g3 and Bg2). The more rapidly the pieces are developed, the better. The queen, however, it not usually played to a central position until later in the game, as it is liable to attack otherwise, when its value means it has to be moved, which can waste time.

2. Control of the center: at the start of the game, it is not clear on which part of the board the pieces will be needed. However, control of the central squares allows pieces to be moved to any part of the board relatively easily, and can also have a cramping effect on the opponent. The classical view is that central control is best effected by placing pawns there, ideally establishing pawns on d4 and e4 (or d5 and e5 for black). However, the hypermodern school showed that it was not always necessary or even desirable to occupy the center in this way, and that too broad a pawn front could be attacked and destroyed, leaving its architect

vulnerable: an impressive looking pawn center is worth little unless it can be maintained. The hypermoderns instead advocated controlling the centre from a distance with pieces, breaking down one's opponent center, and only taking over the center oneself later in the game. This leads to openings such as the Alekhine Defence - in a line like 1. e4 Nf6 2. e5 Nd5 3. d4 d6 4. c4 Nb6 5. f4 White has a formidable pawn center for the moment, but Black hopes to undermine it later in the game, leaving White's position exposed.

3. Getting the king safe: in the middle of the board, the king is somewhat exposed. It is therefore normal for both players to castle in the opening, putting the king to the side of the board (and simultaneously developing one of the rooks).

4. Maintaining a good pawn structure: this is perhaps not so important as the other aims, but it is something which should be borne in mind. A number of openings are based on the idea of giving one's opponent an inferior pawn structure. In the Winawer Variation of the French Defence (1. e4 e6 2. d4 d5 3. Nc3 Bb4 4. e5 c5 5. a3 Bxc3 6. bxc3), black gives up his pair of bishops (which, other things being equal, it is usually best to hang on to) and allows white more space, but damages white's pawn structure in compensation by giving him doubled c-pawns. Similarly, in the Nimzo-Indian Defence (1. d4 Nf6 2. c4 e6 3. Nc3 Bb4), the Classical Variation (4. Qc2) is specifically designed to avoid a similar fault in white's pawn structure (he can recapture on c3 with the queen rather than the b-pawn). (It should be noted that doubled pawns are not all negative for their holder: doubled pawns on one file mean a half-open adjacent file which can be used for an attack.)

In more general terms, many writers (for example, Reuben Fine in *The Ideas Behind the Chess Openings*) have commented that it is White's task in the opening to preserve and increase the advantage conferred by moving first, while Black's task is to equalise the game. Many openings, however, give Black a chance to play aggressively for advantage from the very start.

Common openings

This section briefly lists a few of the more well-known chess openings, emphasizing common approaches to starting chess (currently or historically) and their purpose. Algebraic chess notation is used throughout.

Since White always moves first, openings can be grouped according to White's first move. For the purposes of this section, openings will be grouped into the following categories:

1. White starts by playing "e4" (moving his King's pawn 2 spaces). This move has many strengths - it immediately works on controlling the center, and it frees two pieces (the Queen and a Bishop). This is a popular first move, leaving Black with two options:

1. Black may choose to mirror White's move and reply with "e5" for the same reasons, leading to openings such as the Ruy Lopez, Giuoco Piano (including the Evans Gambit variant), and King's Gambit.

2. Black can also try something other than mirroring White's "e4" move, leading to openings such as the Sicilian Defense, French Defense, Caro-Kann, Center Counter, and Pirc/Modern.

2. White can start by moving the Queen's pawn to "d4". This leads to openings such as the Queen's Gambit, King's Indian Defense, Nimzo-Indian, Bogo-Indian, and Queen's Indian Defense, and Dutch Defense.

3. White can start with some other move than "e4" or "d4", such as "c4", the English Opening, or "Nf3", after which things often turn into one of the d4 openings by a different move order (this is known as *transposition*), but which can also develop into unique openings of its own, such as the Réti Opening (after 1.Nf3 d5 2.c4, for example).

Some of these openings are briefly described below. For a more comprehensive description of openings see the list of chess openings.

White Opens with "e4"

Ruy Lopez

(ECO codes C6 to C9)

The Ruy Lopez (also called the "Spanish" opening) starts with the moves

1. e4 e5 2. Nf3 Nc6 3. Bb5

The Ruy Lopez is an old opening; it is named after Ruy Lopez, a 16th-century Spanish clergyman and chess enthusiast. He made a systematic study of this and other chess openings, which he recorded in a 150 page book. However, although it is named after him, this particular opening was known earlier; it is included in the Göttingen manuscript, which dates from 1490. Popular use of the Ruy Lopez opening did not develop, however, until the mid 1800s when Jaenisch, a Russian theoretician, "rediscovered" its potential. The opening is still in active use as the double king's pawn opening most commonly used in master play; it has been adopted by almost all players at some point in their careers.

At the most basic level, white's third move attacks the knight which defends the e5 pawn attacked by the f3 knight. However, the pawn is not in fact in any danger: if the white tries to win it with, for example, 3... a6 4. Bxc6 dxc6 5. Nxe5 black can just win it back with 5... Qd4. 3. Bb5 is still a good move, however: it develops other pieces, prepares castling, and sets up a potential pin against black's king.

White generally directs pressure on Black's e-pawn and tries to prepare for a pawn on d4. The most usual reply is 3... a6, attacking White's bishop. After that, White can back up (4. Ba4) or exchange pieces (4. Bxc6). See Ruy Lopez for more details.

Giuoco Piano

(ECO Codes C51 to C54)

"Giuoco Piano" is Italian for "Quiet Game", and by the standards of the 19th century when the opening was most popular, it is indeed quiet. However, several lines can be quite violent. It starts as:

1. e4 e5 2. Nf3 Nc6 3. Bc4 Bc5

White's third move hits black's weak f7 square (weak because it is defended only once, and by the king at that), and simultaneously discourages black's d5.

A normal move now would be 4. c3, preparing d4. If White instead replies 4. d3, you have the Guioco Pianissimo ("The Quietest Game"), which can often become very passive.

If White instead plays 4. b4?!, you have the Evans Gambit, in which White offers a pawn in order to gain time to build a good centre: the normal continuation is 4... Bxb4 5. c3 Ba5 6. d4.

Two Knights Defence

A rather more aggressive way for black to meet 3. Bc4 than the Giuoco Piano, the Two Knights Defence begins

1. e4 e5 2. Nf3 Nc6 3. Bc4 Nf6

White can reply quietly with 4. d3 (when play sometimes transposes to the Giuoco Pianissimo), or can continue aggressively with 4. Ng5. The usual reply is 4... d5, although 4... Bc5 (the Wilkes Barre Variation) is a complicated alternative.

Latvian Gambit

An aggressive gambit by Black develops after

1. e4 e5 2. Nf3 f5

The opening is rarely seen and generally thought to be unsound. See Latvian Gambit for details.

King's Gambit

(ECO Code C3)

This opening was the most popular opening in the 19th century. White offers a pawn in exchange for rapid development. It is now rarely seen at the master level, it being generally thought that black can obtain a reasonable position by giving back the gambited pawn at the right moment.

1. e4 e5 2. f4

A natural following move is 2... exf4, accepting the gambit.

Sicilian Defense

The Sicilian starts as:

1. e4 c5

The Sicilian is the most popular response to 1. e4 at master level. Black immediately fights for the center, but by attacking from the c-file (instead of mirroring White's move) he creates an asymmetrical position that leads to lots of complicated positions. Typically, white has an inititative on the King side while black obtains counterplay on the Queen side, particularly on the c file after the exchange of Black's c pawn for White's d pawn.

Black can adopt a variety of set-ups, among them the Dragon variation, which begins

1. e4 c5 2. Nf3 d6 3. d4 cxd4 4. Nxd4 Nf6 5. Nc3 g6

In this variation, Black fianchettos a bishop on the h8-a1 diagonal. This is called the "Dragon" variation because Black's pawn structure is supposed to look like a dragon. Another reason for the name could be that a very aggressive middlegame usually develops following opposite side castling.

Another popular system is the Najdorf, which begins

1. e4 c5 2. Nf3 d6 3. d4 cxd4 4. Nxd4 Nf6 5. Nc3 a6

White plays a variety of moves here, including 6. Bg5, 6. Be2 and 6. Be3.

Black can adopt a number of other set-ups, including the Scheveningen (1. e4 c5 2. Nf3 e6 3. d4 cxd4 4. Nxd4 Nf6 5. Nc3 d6) and the Sveshnikov (1. e4 c5 2. Nf3 Nc6 3. d4 cxd4 4. Nxd4 Nf6 5. Nc3 e5), which as of 2003 is very fashionable at the top level.

To avoid giving black this choice of systems, white can adopt a number of so-called "anti-Sicilian" lines, including 2. Nc3 (the Closed Sicilian), 2. c3 (the Alapin Sicilian), 2. d4 cxd4 3. c3 (the Morra Gambit), lines with an early f4 (the Grand Prix Attack) and various lines with an early Bb5.

French Defense

(ECO Codes C0 and C1)

In the French Defense, Black lets White have more control over the center in exchange for a solid position and chances of a counter-attack later in the game. The French Defense starts

1. e4 e6 2. d4 d5

Games generally involve jockeying for position. The center usually becomes closed after white plays e5 (a move which arises in most variations), two competing pawn chains arise, and each player tries to outflank the other. Black tries to play the freeing moves c5 or f6. Black's queen Bishop often becomes trapped and useless, and is known as the "French Bishop".

3. e5 is the Advance Variation, 3. Nd2 is the Tarrasch Variation, 3. Nc3 Bb4 is the Winawer variation, and 3. Nc3 Nf6 leads to the Steinitz, Classical and Burn variations. See French Defense for more details.

Caro-Kann

The Caro-Kann is similar to the French defense - Black lets White build an "ideal" pawn center with pawns at d4 and e4, but then breaks it up. The Caro-Kann starts out

1. e4 c6 2. d4 d5

The main line of the Caro-Kann is

1. e4 c6 2. d4 d5 3. Nc3 dxe4 4. Nxe4

Black gets to eliminate one of White's central pawns and because he has not played e6 does not have the hemmed in c8-bishop of the French Defense (on the other hand, he has not opened a line to develop the f8-bishop). However, Black's pieces end up with more of a passive defensive role, so players of this opening are often looking for White to make a mistake (however slight).

Common continuations after the above line are 4... Bf5 (the Classical Variation), 4... Nd7 (intending 5... Nf6 6. Nxf6 Nxf6) which is sometimes known as the Karpov system, and 4... Nf6 5. Nxf6 after which black can play safely with 5... exf6 or more riskily with 5... gxf6.

White can vary early on in a number of ways, including the Advance Variation (3. e5) and the Panov-Botvinnik Attack (3. exd5 cxd5 4. c4).

Center Counter

The Center Counter starts out as

1. e4 d5

It is also called the Scandinavian Defence. A common continuation is 2. exd5 Qxd5, though 2... Nf6 is also possible.

Pirc/Modern

The Pirc and the Modern Defences are both based around black playing d6, g6 and Bg7. The main difference is that in the Modern, Black delays playing Nf6. Both systems are introduced with the moves

1. e4 d6 or

1. e4 g6

This is a relatively new opening. In the 1930s this was considered inferior, but by the 1960s it was found to be quite playable. Black lets White take the center with the view to undermining and ruining White's "wonderful" position. This opening is tricky to play and correct play of it is counter-intuitive (immediate center control is not a goal, since Black is trying to undermine that control).

White Opens with "d4"

Queen's Gambit

Now we look at openings that begin "1. d4". The Queen's Gambit starts with:

1. d4 d5 2. c4

White offers up a pawn in exchange for rapid development. His aim is to tempt Black's center pawn away and thus make c4 and e4 accessible for his own forces. Black can accept the gambit with dxc4 (the Queen's Gambit Accepted) or can decline with 2... e6 (the Orthodox Defence) or 2... c6 (the Slav Defence) - if black plays both e6 and c6 it is known as the Semi-Slav. Less commonly, Black plays 2... Nc6 (the Chigorin Defense), 2... e5 (the Albin Counter-Gambit) or 2... Nf6 (the Marshall defence).

King's Indian Defense

(ECO codes E6 to E9)

This is a "hypermodern" opening, where Black lets White take the center with the view to later ruining White's "wonderful" position. It's a risky opening, which has been a favourite of aggressive players such as Kasparov and Fischer.

1. d4 Nf6 2. c4 g6 3. Nc3 Bg7

Black often continues with d6 and e5, and attacks on the king-side, while white attacks on the queen-side.

The main variations of the King's Indian are the Classical, the Samisch, the Averbakh and the Four Pawn Attack.

Nimzo-Indian, Bogo-Indian, and Queen's Indian Defense

All of these "Indian" defenses start with:

1. d4 Nf6 2. c4 e6

The Nimzo-Indian continues with 3. Nc3 Bb4. In the Nimzo-Indian, White tries to create a pawn center and mass his pieces behind behind them for attack.

The Bogo-Indian is 3. Nf3 Bb4+ and the Queen's Indian is 3. Nf3 b6.

Dutch Defense

The Dutch defense starts as:

1. d4 f5

The Dutch defense is an aggressive counterplay by Black. Black immediately begins to move toward White's kingside in an attempt to crush White. However, it also creates weaknesses in Black's position from the beginning - this move of the f-pawn weakens Black's defenses and doesn't help develop pieces.

White Opens with Something Other Than "e4" or "d4"

English Opening

The English opening is a "flank" maneuver. It starts very differently:

1. c4

Here White hopes to control the center by first gaining support on the side. Common responses for Black are e5 (which can lead to positions similar to the Sicilian defense but with opposite colors) or c5. White has the option of opening the game early with d4, or to prepare with a fianchetto of the king's bishop (g3 and Bg2).

If White does play d4, then the English can transpose into either the Queen's Gambit or an Indian Defense.

Classification of chess openings

Various classification schemes for chess openings are in use. The ECO scheme is given on the page List of chess openings.

References

- How to Play the Opening in Chess. 1993. Raymond Keene and David Levy. ISBN 0-8050-2937-0.
- The Encyclopedia of Chess Openings - This is a very technical advanced work in 5 volumes published by Chess Informant of Belgrade. It analyzes openings used in tournament play and archived in *Chess Informant* since 1966. Instead of the traditional names for the openings, it has developed a unique coding system that has also been used by other chess publications.
- Batsford Chess Openings 2. 1989, 1994. Garry Kasparov and Raymond Keene. New York, New York: Henry Holt and Company. ISBN 0-8050-3409-9.
- A Beginner's Garden of Chess Openings by David A. Wheeler
- Nunn's Chess Openings. 1999. John Nunn (Editor), Graham Burgess, John Emms, Joe Gallagher. ISBN 1-8574-4221-0.
- Modern Chess Openings: MCO-14. 1999. Nick De Firmian, Walter Korn. ISBN 0-8129-3084-3.

List of chess openings

This is the ECO (Encyclopedia of Chess Openings) classification of chess openings:

A00 = Irregular Openings

A01 = Nimzovich-Larsen attack

A02= Bird's Opening

A03= Bird's Opening

A04= Reti Opening

A05= Reti Opening, 2..Nf6

A06= Reti Opening, 2..d5

A07= Reti Opening, King's Indian attack (Barcza system)

A08= Reti Opening, King's Indian attack

A09= Reti Opening, 2..d5 3.c4

A10= English Opening

A11= English, Caro-Kann defensive system

A12= English, Caro-Kann defensive system

A13= English Opening

A14= English, Neo-Catalan declined

A15= English, 1...Nf6 (Anglo-Indian defense)

A16= English Opening

A17= English Opening

A18= English, Mikenas-Carls variation

A19= English, Mikenas-Carls, Sicilian variation

A20= English Opening

A21= English Opening

A22= English Opening

A23= English Opening, Bremen system, Keres variation

A24= English Opening, Bremen system with 3...g6

A25= English Opening, Sicilian Reversed

A26= English Opening, Closed system

A27= English Opening, Three knights system

A28= English Opening, Four knights system

A29= English Opening, Four knights, kingside Fianchetto

A30= English Opening, Symmetrical variation

A31= English Opening, Symmetrical, Benoni formation

A32= English Opening, Symmetrical

A33= English Opening, Symmetrical

A34= English Opening, Symmetrical

A35= English Opening, Symmetrical

A36= English Opening, Symmetrical

A37= English Opening, Symmetrical

A38= English Opening, Symmetrical

A39= English Opening, Symmetrical, Main line with d4

A40= Queen's pawn

A41= Queen's pawn

A42= Modern defense, Averbakh system

A43= Old Benoni defense

A44= Old Benoni defence

A45= Queen's pawn game

A46= Queen's pawn game

A47= Queen's Indian defense

A48= King's Indian, East Indian defense

A49= King's Indian, Fianchetto without c4

A50= Queen's pawn game

A51= Budapest defense declined

A52= Budapest defense

A53= Old Indian defense

A54= Old Indian, Ukrainian variation

A55= Old Indian, Main line

A56= Benoni defense

A57= Benko gambit

A58= Benko gambit accepted

A59= Benko gambit, 7.e4

A60= Benoni defense

A61= Benoni defense

A62= Benoni, Fianchetto variation

A63= Benoni, Fianchetto variation, 9...Nbd7

A64= Benoni, Fianchetto variation, 11...Re8

A65= Benoni, 6.e4

A66= Benoni, pawn storm variation

A67= Benoni, Taimanov variation

A68= Benoni, Four pawns attack

A69= Benoni, Four pawns attack, Main line

A70= Benoni, Classical with e4 and Nf3

A71= Benoni, Classical, 8.Bg5

A72= Benoni, Classical without 9.O-O

A73= Benoni, Classical, 9.O-O

A74= Benoni, Classical, 9...a6, 10.a4

A75= Benoni, Classical with ...a6 and 10...Bg4

A76= Benoni, Classical, 9...Re8

A77= Benoni, Classical, 9...Re8, 10.Nd2

A78= Benoni, Classical with ...Re8 and ...Na6

A79= Benoni, Classical, 11.f3

A80= Dutch

A81= Dutch defense

A82= Dutch, Staunton gambit

A83= Dutch, Staunton gambit, Staunton's line

A84= Dutch defense

A85= Dutch with 2.c4 & 3.Nc3

A86= Dutch with 2.c4 & 3.g3

A87= Dutch, Leningrad, Main variation

A88= Dutch, Leningrad, Main variation with 7...c6

A89= Dutch, Leningrad, Main variation with Nc6

A90= Dutch defense

A91= Dutch defense

A92= Dutch defense

A93= Dutch, Stonewall, Botwinnik variation

A94= Dutch, Stonewall with Ba3

A95= Dutch, Stonewall with Nc3

A96= Dutch, Classical variation

A97= Dutch, Ilyin-Genevsky variation

A98= Dutch, Ilyin-Genevsky variation with Qc2

A99= Dutch, Ilyin-Genevsky variation with b3

B00= King's pawn Opening

B01= Scandinavian (centercounter) center defense

B02= Alekhine's defense

B03= Alekhine's defense

B04= Alekhine's defense, Modern variation

B05= Alekhine's defense, Modern variation, 4...Bg4

B06= Robatsch (Modern) defense

B07= Pirc defense

B08= Pirc, Classical (Two knights) system

B09= Pirc, Austrian attack

B10= Caro-Kann defense

B11= Caro-Kann, Two knights, 3...Bg4

B12= Caro-Kann defense

B13= Caro-Kann, Exchange variation

B14= Caro-Kann, Panov-Botvinnik attack, 5...e6

B15= Caro-Kann defense

B16= Caro-Kann, Bronstein-Larsen variation

B17= Caro-Kann, Steinitz variation

B18= Caro-Kann, Classical variation

B19= Caro-Kann, Classical, 7...Nd7

B20= Sicilian defense

B21= Sicilian, Grand Prix attack

B22= Sicilian, Alapin's variation (2.c3)

B23= Sicilian, Closed

B24= Sicilian, Closed

B25= Sicilian, Closed

B26= Sicilian, Closed, 6.Be3

B27= Sicilian defense

B28= Sicilian, O'Kelly variation

B29= Sicilian, Nimzovich-Rubinstein variation

B30= Sicilian defense

B31= Sicilian, Nimzovich-Rossolimo attack (with ...g6, without ...d6)

B32= Sicilian defense

B33= Sicilian defense

B34= Sicilian, Accelerated Fianchetto, Exchange variation

B35= Sicilian, Accelerated Fianchetto, Modern variation with Bc4

B36= Sicilian, Accelerated Fianchetto, Maroczy bind

B37= Sicilian, Accelerated Fianchetto, Maroczy bind, 5...Bg7

B38= Sicilian, Accelerated Fianchetto, Maroczy bind, 6.Be3

B39= Sicilian, Accelerated Fianchetto, Breyer variation

B40= Sicilian defense

B41= Sicilian, Kan variation

B42= Sicilian, Kan, 5.Bd3

B43= Sicilian, Kan, 5.Nc3

B44= Sicilian defense

B45= Sicilian, Taimanov variation

B46= Sicilian, Taimanov variation

B47= Sicilian, Taimanov (Bastrikov) variation

B48= Sicilian, Taimanov variation

B49= Sicilian, Taimanov variation

B50= Sicilian

B51= Sicilian, Canal-Sokolsky (Nimzovich-Rossolimo, Moscow) attack

B52= Sicilian, Canal-Sokolsky attack, 3...Bd7

B53= Sicilian, Chekhover variation

B54= Sicilian

B55= Sicilian, Prins variation, Venice attack

B56= Sicilian

B57= Sicilian, Sozin (not Scheveningen)

B58= Sicilian, Classical

B59= Sicilian, Boleslavsky variation, 7.Nb3

B60= Sicilian, Richter-Rauzer

B61= Sicilian, Richter-Rauzer, Larsen variation, 7.Qd2

B62= Sicilian, Richter-Rauzer, 6...e6

B63= Sicilian, Richter-Rauzer, Rauzer attack

B64= Sicilian, Richter-Rauzer, Rauzer attack, 7...Be7 defense, 9.f4

B65= Sicilian, Richter-Rauzer, Rauzer attack, 7...Be7 defense, 9...Nxd4

B66= Sicilian, Richter-Rauzer, Rauzer attack, 7...a6

B67= Sicilian, Richter-Rauzer, Rauzer attack, 7...a6 defense, 8...Bd7

B68= Sicilian, Richter-Rauzer, Rauzer attack, 7...a6 defense, 9...Be7

B69= Sicilian, Richter-Rauzer, Rauzer attack, 7...a6 defense, 11.Bxf6

B70= Sicilian, Dragon variation

B71= Sicilian, Dragon, Levenfish variation

B72= Sicilian, Dragon, 6.Be3

B73= Sicilian, Dragon, Classical, 8.O-O

B74= Sicilian, Dragon, Classical, 9.Nb3

B75= Sicilian, Dragon, Yugoslav attack

B76= Sicilian, Dragon, Yugoslav attack, 7...O-O

B77= Sicilian, Dragon, Yugoslav attack, 9.Bc4

B78= Sicilian, Dragon, Yugoslav attack, 10.O-O-O

B79= Sicilian, Dragon, Yugoslav attack, 12.h4

B80= Sicilian, Scheveningen variation

B81= Sicilian, Scheveningen, Keres attack

B82= Sicilian, Scheveningen, 6.f4

B83= Sicilian, Scheveningen, 6.Be2

B84= Sicilian, Scheveningen (Paulsen), Classical variation

B85= Sicilian, Scheveningen, Classical variation with ...Qc7 and ...Nc6

B86= Sicilian, Sozin attack

B87= Sozin with ...a6 and ...b5

B88= Sicilian, Sozin, Leonhardt variation

B89= Sicilian, Sozin, 7.Be3

B90= Sicilian, Najdorf

B91= Sicilian, Najdorf, Zagreb (Fianchetto) variation

B92= Sicilian, Najdorf, Zagreb (Fianchetto) variation

B93= Sicilian, Najdorf, 6.f4

B94= Sicilian, Najdorf, 6.Bg5

B95= Sicilian, Najdorf, 6...e6

B96= Sicilian, Najdorf, 7.f4

B97= Sicilian, Najdorf, 7...Qb6

B98= Sicilian, Najdorf, 7...Be7

B99= Sicilian, Najdorf, 7...Be7 Main line

C00= French defense

C01= French, Exchange variation

C02= French, Advance variation

C03= French, Tarrasch

C04= French, Tarrasch, Guimard Main line

C05= French, Tarrasch, Closed variation

C06= French, Tarrasch, Closed variation, Main line

C07= French, Tarrasch, Open variation

C08= French, Tarrasch, Open, 4.exd5 exd5

C09= French, Tarrasch, Open variation, Main line

C10= French, Paulsen variation

C11 = French defense

C12= French, MacCutcheon variation

C13= French, Classical

C14= French, Classical variation

C15= French, Winawer (Nimzovich) variation

C16= French, Winawer, Advance variation

C17= French, Winawer, Advance variation

C18= French, Winawer, Advance variation

C19= French, Winawer, Advance, 6...Ne7

C20= King's pawn game

C21= center game

C22= center game

C23= Bishop's Opening

C24= Bishop's Opening, Berlin defense

C25= Vienna game

C26= Vienna, Falkbeer variation

C27= Vienna game

C28= Vienna game

C29= Vienna gambit, Kaufmann variation

C30= King's gambit

C31= KGD, Falkbeer counter-gambit

C32= KGD, Falkbeer, 5. dxe4

C33= King's gambit accepted

C34= King's knight's gambit

C35= KGA, Cunningham defense

C36= KGA, Abbazia defense (Classical defense, Modern defense)

C37= KGA, Quaade gambit

C38= King's knight's gambit

C39= King's knight's gambit

C40= King's knight Opening

C41= Philidor's defense

C42= Petrov's defense

C43= Petrov, Modern (Steinitz) attack

C44= King's pawn game

C45= Scotch game

C46= Three knights game

C47= Four knights, Scotch variation

C48= Four knights, Spanish variation

C49= Four knights, double Ruy Lopez

C50= King's pawn game

C51= Evans gambit declined

C52= Evans gambit

C53= Giuoco piano

C54= Guioco piano

C55= Two knights defense

C56= Two knights defense

C57= Two knights defense

C58= Two knights defense

C59= Two knights defense

C60= Ruy Lopez

C61= Ruy Lopez, Bird's defense

C62= Ruy Lopez, Old Steinitz defence

C63= Ruy Lopez, Schliemann defense

C64= Ruy Lopez, Classical (Cordel) defence

C65= Ruy Lopez, Berlin defense

C66= Ruy Lopez, Berlin defence, 4.O-O, d6

C67= Ruy Lopez, Berlin defence, Open variation

C68= Ruy Lopez, Exchange variation

C69= Ruy Lopez, Exchange variation, 5.O-O

C70= Ruy Lopez,

C71= Ruy Lopez, Modern Steinitz defense

C72= Ruy Lopez, Modern Steinitz defense 5.0-0

C73= Ruy Lopez, Modern Steinitz defense, Richter variation

C74= Ruy Lopez, Modern Steinitz defense

C75= Ruy Lopez, Modern Steinitz defense

C76= Ruy Lopez, Modern Steinitz defense, Fianchetto (Bronstein) variation

C77= Ruy Lopez, Morphy defence

C78= Ruy Lopez, 5.O-O

C79= Ruy Lopez, Steinitz defense deferred (Russian defence)

C80= Ruy Lopez, Open (Tarrasch) defence

C81= Ruy Lopez, Open, Howell attack

C82= Ruy Lopez, Open, 9.c3

C83= Ruy Lopez, Open, Classical defence

C84= Ruy Lopez, Closed defense

C85= Ruy Lopez, Exchange variation doubly deferred (DERLD)

C86= Worrall attack

C87= Ruy Lopez, Closed, Averbach variation

C88= Ruy Lopez, Closed

C89= Ruy Lopez, Marshall counter-attack

C90= Ruy Lopez, closed (with ...d6)

C91= Ruy Lopez, closed, 9.d4

C92= Ruy Lopez, closed, 9.d4

C93= Ruy Lopez, closed, Smyslov defense

C94= Ruy Lopez, Closed, Breyer defense

C95= Ruy Lopez, closed, Breyer, 10.d4

C96= Ruy Lopez, closed, 8...Na5

C97= Ruy Lopez, Closed, Chigorin defense

C98= Ruy Lopez, Closed, Chigorin, 12...Nc6

C99= Ruy Lopez, Closed, Chigorin, 12...c5d4

D00= Queen's pawn game

D01= Richter-Veresov attack

D02= Queen's pawn game, 2. Nf3

D03= Torre attack, Tartakower variation

D04= Queen's pawn game

D05= Queen's pawn game, Zukertort variation

D06= Queen's Gambit

D07= QGD; Chigorin defense

D08= QGD; Albin counter-gambit

D09= QGD; Albin counter-gambit, 5.g3

D10= QGD; Slav defense

D11= QGD; Slav defense, 3.Nf3

D12= QGD; Slav defense, 4.e3 Bf5

D13= QGD; Slav defense, Exchange variation

D14= QGD; Slav defense, Exchange variation

D15= QGD; Slav accepted, Exchange variation, 6.Bf4 Bf5

D16= QGD; Slav accepted, Alapin variation

D17= QGD; Slav defense, Czech defence

D18= QGD; Dutch variation

D19= QGD; Dutch variation

D20= Queen's Gambit accepted

D21= QGA, 3.Nf3

D22= QGA; Alekhine defense

D23= Queen's gambit accepted

D24= QGA, 4.Nc3

D25= QGA, 4.e3

D26= QGA; classical variation

D27= QGA; classical variation

D28= QGA; Classical variation 7.Qe2

D29= QGA; Classical variation 8...Bb7

D30= QGD

D31= QGD, 3.Nc3

D32= QGD; Tarrasch defense

D33= QGD; Tarrasch, Schlechter-Rubinstein system

D34= QGD; Tarrasch, 7...Be7

D35= QGD; 3...Nf6

D36= QGD; Exchange, positional line, 6.Qc2

D37= QGD; 4.Nf3

D38= QGD; Ragozin variation

D39= QGD; Ragozin, Vienna variation

D40= QGD; Semi-Tarrasch defense

D41= QGD; Semi-Tarrasch, 5.cd

D42= QGD; Semi-Tarrasch, 7.Bd3

D43= QGD; Semi-Slav

D44= QGD; Semi-Slav 5.Bg5 dc

D45= QGD; Semi-Slav 5.e3

D46= QGD; Semi-Slav 6.Bd3

D47= QGD; Semi-Slav 7.Bc4

D48= QGD; Meran, 8...a6

D49= QGD; Meran, 11. Nxb5

D50= QGD; 4.Bg5

D51= QGD; 4.Bg5 Nbd7

D52= QGD

D53= QGD; 4.Bg5 Be7

D54= QGD; Anti-neo-Orthodox variation

D55= QGD; 6.Nf3

D56= QGD; Lasker defense

D57= QGD; Lasker defense, Main line

D58= QGD; Tartakower (Makagonov-Bondarevsky) system

D59= QGD; Tartakower (Makagonov-Bondarevsky) system, 8.cd Nxd5

D60= QGD; Orthodox defense

D61= QGD; Orthodox defense, Rubinstein variation

D62= QGD; Orthodox defense, 7.Qc2 c5, 8.cd (Rubinstein)

D63= QGD; Orthodox defense, 7.Rc1

D64= QGD; Orthodox defense, Rubinstein attack (with Rc1)

D65= QGD; Orthodox defense, Rubinstein attack, Main line

D66= QGD; Orthodox defense, Bd3 line

D67= QGD; Orthodox defense, Bd3 line, Capablanca freeing manoever

D68= QGD; Orthodox defense, Classical variation

D69= QGD; Orthodox defense, Classical, 13.dxe5

D70= Neo-Gruenfeld defense

D71= Neo-Gruenfeld, 5.cd

D72= Neo-Gruenfeld, 5.cd, Main line

D73= Neo-Gruenfeld, 5.Nf3

D74= Neo-Gruenfeld, 6.cd Nxd5, 7.O-O

D75= Neo-Gruenfeld, 6.cd Nxd5, 7.O-O c5, 8.Nc3

D76= Neo-Gruenfeld, 6.cd Nxd5, 7.O-O Nb6

D77= Neo-Gruenfeld, 6.O-O

D78= Neo-Gruenfeld, 6.O-O c6

D79= Neo-Gruenfeld, 6.O-O, Main line

D80= Gruenfeld defense

D81= Gruenfeld; Russian variation

D82= Gruenfeld 4.Bf4

D83= Gruenfeld gambit

D84= Gruenfeld gambit accepted

D85= Gruenfeld, exchange variation

D86= Gruenfeld, Exchange, Classical variation

D87= Gruenfeld, Exchange, Spassky variation

D88= Gruenfeld, Spassky variation, Main line, 10...cd, 11.cd

D89= Gruenfeld, Spassky variation, Main line, 13.Bd3

D90= Gruenfeld, Three knights variation

D91= Gruenfeld, Three knights variation

D92= Gruenfeld, 5.Bf4

D93= Gruenfeld with 5. Bf4 O-O 6. e3

D94= Gruenfeld, 5.e3

D95= Gruenfeld with 5. e3 O-O 6. Qb3

D96= Gruenfeld, Russian variation

D97= Gruenfeld, Russian variation with 7. e4

D98= Gruenfeld, Russian, Smyslov variation

D99= Gruenfeld defense, Smyslov, Main line

E00= Queen's pawn game

E01= Catalan, closed

E02= Catalan, open, 5.Qa4

E03= Catalan, open, Alekhine variation

E04= Catalan, Open, 5.Nf3

E05= Catalan, Open, Classical line

E06= Catalan, Closed, 5.Nf3

E07= Catalan, Closed, 6...Nbd7

E08= Catalan, Closed, 7.Qc2

E09= Catalan, Closed, Main line

E10= Queen's pawn game 3. Nf3

E11= Bogo-Indian defense

E12= Queen's Indian defense

E13= Queen's Indian, 4.Nc3, Main line

E14= Queen's Indian, 4.e3

E15= Queen's Indian, 4.g3

E16= Queen's Indian, Capablanca variation

E17= Queen's Indian, 5.Bg2 Be7

E18= Queen's Indian, Old Main line, 7.Nc3

E19= Queen's Indian, Old Main line, 9.Qxc3

E20= Nimzo-Indian defense

E21= Nimzo-Indian, Three knights variation

E22= Nimzo-Indian, Spielmann variation

E23= Nimzo-Indian, Spielmann, 4...c5, 5.dc Nc6

E24= Nimzo-Indian, Saemisch variation

E25= Nimzo-Indian, Saemisch variation, Keres variation

E26= Nimzo-Indian, Saemisch variation, 4. a3 Bxc3+ 5. bxc3 c5 6. e3

E27= Nimzo-Indian, Saemisch variation, 5...0-0

E28= Nimzo-Indian, Saemisch variation, 6. e3

E29= Nimzo-Indian, Saemisch variation, Main line

E30= Nimzo-Indian, Leningrad variation,

E31= Nimzo-Indian, Leningrad variation, main line

E32= Nimzo-Indian, Classical variation

E33= Nimzo-Indian, Classical variation, 4...Nc6

E34= Nimzo-Indian, Classical, Noa variation

E35= Nimzo-Indian, Classical, Noa variation, 5. cxd5 exd5

E36= Nimzo-Indian, Classical, Noa variation, 5. a3

E37= Nimzo-Indian, Classical, Noa variation, Main line, 7.Qc2

E38= Nimzo-Indian, Classical, 4...c5

E39= Nimzo-Indian, Classical, Pirc variation

E40= Nimzo-Indian, 4.e3

E41= Nimzo-Indian, 4.e3 c5

E42= Nimzo-Indian, 4.e3 c5, 5.Ne2 (Rubinstein)

E43= Nimzo-Indian, Fischer variation

E44= Nimzo-Indian, Fischer variation, 5.Ne2

E45= Nimzo-Indian, 4.e3, Bronstein (Byrne) variation

E46= Nimzo-Indian, 4.e3 O-O

E47= Nimzo-Indian, 4.e3 O-O, 5.Bd3

E48= Nimzo-Indian, 4.e3 O-O, 5.Bd3 d5

E49= Nimzo-Indian, 4.e3, Botvinnik system

E50= Nimzo-Indian, 4.e3 e8g8, 5.Nf3, without ...d5

E51= Nimzo-Indian, 4.e3 e8g8, 5.Nf3 d7d5

E52= Nimzo-Indian, 4.e3, Main line with ...b6

E53= Nimzo-Indian, 4.e3, Main line with ...c5

E54= Nimzo-Indian, 4.e3, Gligoric system with 7...dc

E55= Nimzo-Indian, 4.e3, Gligoric system, Bronstein variation

E56= Nimzo-Indian, 4.e3, Main line with 7...Nc6

E57= Nimzo-Indian, 4. e3, Main line with 8...dxc4 and 9...Bxc4 cxd4

E58= Nimzo-Indian, 4.e3, Main line with 8...Bxc3

E59= Nimzo-Indian, 4.e3, Main line

E60= King's Indian defense

E61= King's Indian defense, 3.Nc3

E62= King's Indian, Fianchetto variation

E63= King's Indian, Fianchetto, Panno variation

E64= King's Indian, Fianchetto, Yugoslav system

E65= King's Indian, Yugoslav, 7.O-O

E66= King's Indian, Fianchetto, Yugoslav Panno

E67= King's Indian, Fianchetto with ...Nd7

E68= King's Indian, Fianchetto, Classical variation, 8.e4

E69= King's Indian, Fianchetto, Classical Main line

E70= King's Indian, 4.e4

E71= King's Indian, Makagonov system (5.h3)

E72= King's Indian with e4 & g3

E73= King's Indian, 5.Be2

E74= King's Indian, Averbakh, 6...c5

E75= King's Indian, Averbakh, Main line

E76= King's Indian, Four pawns attack

E77= King's Indian, Four pawns attack, 6.Be2

E78= King's Indian, Four pawns attack, with Be2 and Nf3

E79= King's Indian, Four pawns attack, Main line

E80= King's Indian, Saemisch variation

E81= King's Indian, Saemisch, 5...O-O

E82= King's Indian, Saemisch, double Fianchetto variation

E83= King's Indian, Saemisch, 6...Nc6

E84= King's Indian, Saemisch, Panno Main line

E85= King's Indian, Saemisch, Orthodox variation

E86= King's Indian, Saemisch, Orthodox, 7.Nge2 c6

E87= King's Indian, Saemisch, Orthodox, 7.d5

E88= King's Indian, Saemisch, Orthodox, 7.d5 c6

E89= King's Indian, Saemisch, Orthodox Main line

E90= King's Indian, 5.Nf3

E91= King's Indian, 6.Be2

E92= King's Indian, Classical variation

E93= King's Indian, Petrosian system, Main line

E94= King's Indian, Orthodox variation

E95= King's Indian, Orthodox, 7...Nbd7, 8.Re1

E96= King's Indian, Orthodox, 7...Nbd7, Main line

E97= King's Indian, Orthodox, Aronin-Taimanov variation (Yugoslav attack / Mar del Plata variation)

E98= King's Indian, Orthodox, Aronin-Taimanov, 9.Ne1

E99= King's Indian, Orthodox, Aronin-Taimanov, Main line

SEE ALSO

- Chess

A00

Sokolsky Opening

A00: Irregular Openings

- Sokolsky Opening 1.b4
- Amar Opening 1. Nh3
- Grob's Attack 1.g4
- Durkin's Attack 1.Na3
- Anderssen's Opening 1.a3
- Saragossa Opening 1.c3
- Mieses Opening 1.c3

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Sokolsky Opening

1. b4 e5

A00 Sokolsky Opening

1.b4 e5

A00 Sokolsky Opening 1.b4 e5

A00: Sokolsky Opening (1.b4)

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1.b4 e5 2.Bb2 Bxb4 3.Bxe5

3...Nf6 4.c4

[4.Nc3 Nc6 5.Bxf6 (*5.Bg3?!*[3]) 5...Qxf6 6.Nd5 Qe5 7.Nxb4 Nxb4 8.Rb1 (*8.c3?? Nd3#*) 8...Nxa2 9.Rb3= (*9.c3=*) ; 4.Nf3 0?0 5.e3 d5 **:**

A) 6.Be2 Re8 7.0?0 Bg4 8.Bb2 (*8.d3?? Bxf3 9.Bxf3 Rxe5?+*) 8...Nbd7 9.d3 c6 10.Nbd2 Qc7 11.Rb1 Bc5 12.c4=;

B) 6.c4] 6.c4?! Nc6 7.Bc3 (7.Bb2 Re8 8.cxd5 Nxd5 9.Qc2 Bd6 10.Bc4 Be6 11.0?0 Qe7[3]) 7...Bxc3 8.dxc3 dxc4 9.Qa4 Nd5 10.Qxc4 Re8 11.Qb3 Bg4 12.Be2 Nb6[3]]

4...Nc6

[4...0?0 5.Nf3 d5 6.e3 Be7 (*6...c5 7.cxd5 Nxd5 8.Be2 Nc6 9.Bb2 Bg4 10.0?0 Qe7 11.Qc2 Rfd8 12.a3 Ba5 13.Rc1 b6=*) 7.Bb2 c5 8.Be2 Nc6 9.cxd5 Nxd5 10.0?0 Bf6 11.Qc1 (*11.d4 cxd4 12.Nxd4 Qb6 13.Qd2 Nxd4 14.Bxd4 Bxd4 15.exd4 Be6=*)11...Ndb4 12.Bxf6 Qxf6 13.Nc3 Bf5 14.a3 Na6=]

5.Bb2 0?0 6.e3

[6.Nf3 d5 7.cxd5 Nxd5 8.g3=]

6...d5 7.Nf3 Bg4

[7...Re8 8.cxd5**:**

A) 8...Qxd5 9.Be2 Bf5 10.a3 Ba5 11.0?0 Rad8 12.d4 (*12.Bxf6 gxf6 13.d4=*)12...Ne4 13.Qc1 Qd6 14.Rd1 Be6 15.Nbd2 Bd5=**;**

B) 8...Nxd5 9.Qc2 Nf4 10.Kd1 (*10.Qc4 Ng6 11.Bd3 Be6 12.Qc2 Bd5 13.0?0 Bxf3*[3]; *10.Nc3?! Bg4 11.Nb5 Bxf3 12.gxf3 Qh4 13.e4*[3]) 10...Nd5 11.Bd3 h6 12.Bh7+ Kh8=]

8.a3 Bd6 9.cxd5 Nxd5 10.Be2 Be7

[10...Qe7= 11.Qb3 Nb6 12.d4 Rad8 13.Nbd2 Be6 14.Qc2 Rfe8 15.0-0=; 10...Re8= 11.Nc3 Nxc3 12.Bxc3 Qe7 13.Qb3 b6 14.Qb2 Qf8 15.0-0]

11.0?0 Bf6 12.d4 Re8 13.Nbd2 a6

[13...Bf5 14.Bb5 a6 15.Ba4 Qd7 16.Bc2 Bxc2 17.Qxc2 Rad8=]

14.Qc2 Qd7 15.Bd3 g6

[15...h6 16.h3 Bxf3 17.Nxf3 Rad8 18.Bh7+ Kh8 19.Bf5=]

16.h3 Bxf3

[16...Be6?! 17.Ne4 Be7 18.Nc5 (18.Neg5 Bxg5 19.Nxg5 Rad8 20.Rfc1 f5 21.Rab1[2]) 18...Bxc5 19.dxc5 Rad8 20.Rfd1[2]]

17.Nxf3 Rad8 18.Rfd1 Bg7

[18...Nb6?:

A) 19.d5!? Ne5 (*19...Nxd5? 20.Bc4 Bxb2 21.Qxb2 Qe6 22.Qxb7±*) 20.Bxe5 Bxe5 21.Nxe5 Rxe5 22.e4=;

B) 19.Rac1 Re6 20.e4 Rd6 21.e5 (*21.d5 21...Bxb2 22.Qxb2 Nb8 23.Rc2 Qe7 24.Rdc1 c5 25.Re2 f6[2]*) 21...Bxe5 22.Nxe5 Nxe5 23.dxe5 Rxd3 24.Rxd3 Qxd3 25.Qxc7 Rc8 26.Qxb7 Rxc1+ 27.Bxc1 Qd1+ 28.Kh2 Qxc1 29.Qxb6 Qxa3=

19.e4 Nf4

[19...Nb6?! 20.d5**:**

A) 20...Ne7? 21.Bxg7 Kxg7 22.Qb2+ f6 (*22...Kg8 23.Ne5 Qd6 24.Ng4 Kf8 25.Qh8+ Ng8 26.Nh6+-*) 23.Nd4+-;

B) 20...Ne5 21.Nxe5 Bxe5 22.Bxe5 Rxe5 23.a4[2]]

20.Bf1 Ne7

[20...Qe7?! 21.e5**:** (*21.d5 Ne5 22.Nxe5 Bxe5 23.Bxe5 Qxe5 24.g3[2]*)

A) 21...Nd5? 22.Bxa6 Ncb4 23.axb4 Nxb4 24.Qb3:

A1) 24...bxa6 25.Bc3**:**

A1a) 25...Nd5 26.Rxa6 Nxc3 27.Qxc3 c5 28.d5 Bxe5 (*28...Qb7 29.Ra5 Rxd5 30.Rxd5 Qxd5 31.Rxc5+-*) 29.Nxe5 Qxe5 30.Qxc5+-;

A1b) 25...Rb8 26.Qc4 Rb6 27.Rdb1 Reb8 28.Rxb4 Rxb4 29.Bxb4 Rxb4 30.Qxa6+-;

A2) 24...Nxa6 25.Qxb7 Rb8 (*25...Nc5 26.dxc5 Rb8 27.Qc6 Rxb2 28.Rd7 Qf8 29.Rxc7+-*) 26.Qxa6 Rxb2 27.Qc6 Rb6 28.Qc2 Rb7 29.Rdc1 f6 30.Qc6 Reb8 31.Ra8 Rb6 32.Rxb8+ Rxb8 33.Qxc7+-;

B) 21...Qd7 ;

20...Re7 21.Rac1 Nb8 22.Ne5 (*22.Bc4 Nc6 23.Bb3 h6 24.d5 Ne5 25.Nxe5 Bxe5 26.Bxe5 Rxe5=*) 22...Qc8 23.Qc3 g5 24.Qc5 Rde8=]

21.Rac1 c6 22.Ne5 Qc7

[22...Bxe5? 23.dxe5 Qc8 24.e6 Rxd1 25.exf7+ Kxf7 26.Rxd1 b5 27.Qc3 Rf8 28.Qg7+ Ke8 29.Qxh7+-]

23.g3 Bxe5 24.dxe5 Ne6 25.Rd6 c5 26.Rcd1 Nc8 27.R6d5 Ne7 28.Rxd8 Rxd8 29.Rxd8+ Qxd8

SEE ALSO Algebraic chess notation

Gambit

Evans Gambit | Latvian Gambit | Smith-Morra Gambit

A gambit is a chess opening, where something is sacrificed in order to achieve a better strategic position. Usually, the piece sacrificed is a pawn, but there are also gambits sacrificing a Bishop or Knight, like the Muzio gambit (**1.e4 e5 2.f4 xf4 3.Nf3 g5 4.Bc4 g4 5.0-0**) and Cochrane gambit (**1.e4 e5 2.Nf3 Nf6 3.Nxe5 d6 4.Nxf7**). Usually, the player who sacrifices something gains time or active piece play. A good example is the Middle or Danish gambit: **1.e4 e5 2.d4 xd4 3.c3 xc3 4.Bc4 xb2 5.Bxb2**. White has two pawns less, but his bishops are places very well, looking to the opponents kingside. A very dubious gambit is the so called Halloween Gambit: **1.e4 e5 2.Nf3 Nc6 3.Pc3 Nf6 4.Nxe5?! Nxe5 5.d4**.

Of course, one is not obliged to accept a gambit; often, one can decline without a problem.

The word gambit stems from the Italian 'gambetta' which means: setting a trap.

Some other gambits:

- Smith-Morra Gambit: **1.e4 c5 2.d4**
- Blackmar-Diemer Gambit (BDG): **1.d4 d5 2.e4 xe4 3.Nc3 followed by 4.f3**
- Staunton Gambit: **1.d4 f5 2.e4**
- Budapest Gambit: **1.d4 Nf6 2.c4 e5**
- Scotch Gambit: **1.e4 e5 2.Nf3 Nc6 3.d4 xd4 4.Bc4**
- Queen's Gambit: **1.d4 d5 2.c4 xc4** - is the most played "gambit", but it is technically not a gambit, since white can always win his pawn back.
- Latvian Gambit

Evans Gambit

The **Evans Gambit** is a chess opening with the moves (in algebraic notation) 1. e4 e5 2. Nf3 Nc6 3. Bc4 Bc5 4. b4.

The gambit is named after Captain William Davies Evans, the first player to employ it. The first game with the opening is considered to be Evans - McDonnell, London 1827, although in that game a slightly different move order was tried (1. e4 e5 2. Nf3 Nc6 3. Bc4 Bc5 4. O-O d6 and only now 5. b4). The gambit became very popular shortly after that, being employed a number of times in the series of games between McDonnell and Louis de la Bourdonnais in 1834. Players such as Adolf Anderssen, Paul Morphy and Mikhail Chigorin. It was out for favour for much of the 20th century, although John Nunn and Jan Timman played some games with it in the late 1970s and early 1980s, and in the 1990s Garry Kasparov used it in a few of his games (notably a famous 25-move win against Viswanathan Anand in Riga, 1995), which prompted a brief revivial of interest in it.

The basic idea behind the move 4. b4 is to give up a pawn in order to secure a strong centre and bear down on Black's weak-point, f7. Often, the idea of Ba3, preventing black from castling, is also in the air. The most obvious and most usual way for black to meet the gambit is to accept it with 4... Bxb4, after which white plays 5. c3 and black usually follows up with 5... Ba5 (5... Be7 and, less often 5... Bc5 and 5... Bd6 are also played). White usually follows up with 6. d4.

Alternatively the gambit can be declined with 4... Bb6, when 5. a4 a6 is the normal continuation.

Latvian Gambit

see also: list of chess openings

The **Latvian Gambit** is an aggressive chess opening in which Black gives up a pawn early on in the hope of gaining the initiative. It was formerly known as the **Greco Counter Gambit** until the new name was made official by the FIDE Congress of 1937. The new name was a tribute to the Latvian players, notably Karlis Betin, who analyzed it in the early part of the 20th century. The original name commemorated the Italian player Gioachino Greco (1600-1634). This opening is rarely played in major tournaments.

The opening is characterized by the following moves (in algebraic chess notation) which give it the appearance of a King's Gambit with the colours reversed.

1. e4 e5

2. Nf3 f5

At this point several possible moves by white have been studied, of which the most important are

- 3. Nxe5 - the main line
- 3. Bc4
- 3. exf5
- 3. d4
- 3. Nc3

Several other continuations have been studied but are considered to lack advantage for white

- 3. d3
- 3. b4
- 3. b3
- 3. Qe2
- 3. g4

Smith-Morra Gambit

In chess, the **Smith-Morra Gambit** (or simply **Morra Gambit**) is a gambit against the Sicilian Defence distinguished by the moves 1. e4 c5 2. d4 cxd4 3. c3 (the moves are given in algebraic notation). It is not common in Grandmaster games, but at club level chess it is an excelent weapon.

How to play it

- **1.e4 c5 2.d4 cxd4 3.c3 dxc3 4.Nxc3**

White sacrifices a pawn to develop quickly and create attacking chances. In exchange for the gambit pawn, White has developed a piece and a pawn, while Black has nothing but an empty space on c7.

- **4...Nc6 5.Nf3 e6 6.Bc4 d6 7.0-0 Nf6 8.Qe2 Be7 9.Rd1 e5**

It would be nice if White plays h2-h3 now or on the following move to keep Black off of g4. (It should be noted that the above line is just one path of many that the game can take.)

If black wants to refuse the gambit, he can do so with 3... d5 or 3... Nf6, both of which transpose to the Alapin variation of the Sicilian (usually introduced by the move order 1. e4 c5 2. c3). Alternatively, 3... d3 is the Smith-Morra declined proper, and leads to unique lines.

Another gambit against the Sicilian is the Wing Gambit (1. e4 c5 2. b4).

Defence

French Defence | Grunfeld Defence | Nimzo-Indian Defence

French Defence

See also: list of chess openings

The **French Defence** is an opening in chess. It is characterised by the opening moves 1. e4 e6 (see algebraic notation) and in the vast majority of cases this is followed up with 2. d4 d5, giving the following position

The defence has a reputation for solidity and resilience, though it can result in a somewhat cramped game for black in the early stages. Black often gains counter-attacking possibilities on the queen-side while white tends to concentrate on the king-side.

The defence is named after a match played by correspondence between the cities of London and Paris in 1834 (although earlier examples of games with the opening do exist). It has since become one of the most popular defences to 1. e4. Players including Viktor Korchnoi, Wolfgang Uhlmann and Nigel Short have been particularly fond of it. More recently, the defence has featured strongly in the opening repertoire of Evgeny Bareev and Teimour Radjabov (who used it to defeat Garry Kasparov in early 2003, thus becoming the first player born since Kasparov took the world championship in 1985 to beat him).

General considerations

Whatever variation of the opening is played, certain themes tend to recur in the French Defence. A pawn formation similar to this one occurs in several of the main variations where neither the d nor the e pawns are exchanged

Black has more space on the queen-side (see chess terminology) so tends to focus on that side of the board. He often plays ...c5 to attack white's pawn chain at its base, and this move, as well as ...f6 can help to free his position, which is somewhat cramped.

White, on the other hand, usually tries to exploit his extra space on the king-side where he can sometimes create a mating attack. White tries to do this in the Alekhine-Chatard attack, for example. Another example is the following line of the Classical French: 1. e4 e6 2. d4 d5 3. Nc3 Nf6 4. Bg5 Be7 5. e5 Nfd7 6. Bxe7 Qxe7 7. f4 0-0 8. Nf3 c5 9. Bd3

White is focussing on the h7 pawn. In many openings, black would have a knight on f6 defending this square, but here it has been pushed away by e5. A possible continuation sees white sacrifice this bishop with 9... cxd4 10. Bxh7+ Kxh7 11. Ng5 when black must give up his queen to avoid being mated with 11... Qxg5 12. fxg5 dxc3. Black has three minor pieces

for the queen, which in theory is a straight swap, but his king is vulnerable and white has good attacking chances.

One of black's main problems in the French Defence is his queen's bishop which is blocked in by his own pawn on e6. The bishop can be next door to useless for the early part of the game, and unless black makes some effort to free it (usually with the pawn breaks ...c5 and ...f6), it can remain that way for the whole game. An often cited example of the potential weakness of this bishop is Tarrasch - Teichmann, San Sebastian 1912, in which the following position was reached after 15 moves of a Classical French

Here black is reduced to complete passivity. White will probably try to trade off black's knight, which is the only one of his pieces that has any scope. Although it might be possible for black to defend this position and hold on for a draw, it is not easy and, barring any mistakes by white, black will have no chance of an attack. In Tarrasch - Teichmann, white won after 41 moves. However, this is pretty much as bad as the French Defence gets for black - normally black has compensatory counterplay.

Following the opening moves, the game almost always continues 2. d4 d5. This leaves white's e4 pawn attacked. He has several main options - he can exhchange the pawn off with 3. exd5, he can push the pawn forwards with 3. e5, or he can defend the pawn with either 3. Nd2 or 3. Nc3.

3. exd5 exd5 - the Exchange Variation

The exchange variation has the repuatation of being safe for white, but rather dull. Because of the symmetrical pawn structure there is no imbalance in the game, and the open e-file encourages the exchange of pieces. White maintains an advantage because he moves first, but draws are common in this line, and it is generally thought that if white seriously wants to play for a win, he must choose a different move.

3. e5 - the Advance Variation

3. e5 is the advance variation. It was regarded as the best continuation by Aaron Nimzowitsch, and, although not so popular as other continuations in modern play, is still seen quite often. The game usually continues with a sequence focusing on white's d4 pawn: 3... c5 4. c3 Nc6 5. Nf3, after which both 5... Bd7 and 5... Qb6 are common.

A trap which many beginners fall into in the 5... Qb6 line is 6. Bd3 cxd4 7. cxd4 Nxd4 8. Nxd4 Qxd4 9. Bb5+ winning the black queen. Black should play 7... Bd7 instead to prevent this. White may decide to sacrifice his d pawn anyway by continuing 8. 0-0 Nxd4 9. Nxd4 Qxd4 10. Nc3 (this is known as the Milner-Barry Gambit after Stuart Milner-Barry).

3. Nd2 - the Tarrasch Variation

3. Nd2 is the Tarrasch variation, named after Siegbert Tarrasch. This move was particularly popular during the late 1970s and early 1980s when Anatoly Karpov used it to great effect. It is still played today, though not as often as it once was.

The move differs from 3. Nc3 in several respects: it doesn't block the path of white's c pawn, which means he can play c3 at some stage to support the d4 pawn; and it avoids the Winawer Variation because 3... Bb4 can be met with 4. c3 when black has wasted a move (he has to retreat his bishop).

The most critical line is generally regarded to be 3... c5 4. exd5 exd5, which usually leads to black having an isolated queen's pawn (this is both an advantage because of the open lines it gives black, and a disadvantage because an isolated pawn is weak as it cannot be protected by other pawns and so must be protected by pieces instead).

If black wants to avoid the isolated queen's pawn, he can instead continue 3... Nf6, which leads to positions more akin to the Classical variation.

3. Nc3

3. Nc3 can be thought of as the main line of the French. Black has three main options, 3... dxe4 (the Rubinstein variation), 3... Bb4 (the Winawer variation) and 3... Nf6 (the Classical variation).

3... dxe4 - the Rubinstein Variation

This move, named after Akiba Rubinstein is seen as somewhat passive but not necessarily bad.

3... Bb4 - the Winawer Variation

This variation, named after Simon Winawer, is one of the main systems in the French. For a good while around the middle of the 20th century, it was the most often seen move after 3. Nc3, but around the 1980s, the Classical Variation began to be revived, and has since become more popular.

...Bb4 pins the c3 knight to the king, leaving the e4 pawn undefended. White has the option of playing a gambit with 4. a3 or 4. Nge2 (the Alekhine Gambit), but usually moves his pawn into safety with 4. e5.

A typical continuation is 4. e5 c5 5. a3 Bxc3+ 6. bxc3

White has more space on the kingside, where black is even weaker than usual because he has traded off his dark-square bishop. White often plays Qg4 at some stage to put some pressure on that side of the board. Black has compensation, however, in the form of white's doubled c pawns, which are weak and liable to come under attack.

3... Nf6 - the Classical Variation

This is another major system in the French. White can continue with 4. e5, the Steinitz Variation (named after Wilhelm Steinitz) or can play 4. Bg5. This threatens e5 which would win the knight (it could not moved because it is pinned to the queen). The most usual reply at the top level is now 4... dxe4 (the Burn Variation, named after Amos Burn). This line can become quite imbalanced after the continuation 5. Nxe4 Be7 6. Bxf6 gxf6 (a variation played on several occasions by Alexander Morozevich), or can proceed down quieter lines with 5. Nxe4 Be7 6. Bxf6 Bxf6 (or 5... Nbd7 and 6... Nxf6).

The main line was once 4... Be7. A normal continuation would then be 5. e5 Nfd7 6. Bxe7 Qxe7 7. f4 0-0 8. Nf3 c5, when white has a number of options including Bd3, Qd2 and dxc5. An alternative for white, the Albin-Chatard Attack, is not very popular at Grandmaster level, but is more often seen in amateur games. After 4... Be7 5. e5 Nfd7 6. h4 Bxg5 7. hxg5 Qxg5 8. Nh3 (Nf3 is also seen but less common), white has sacrificed a pawn in order to improve his attacking chances on the king side. The open h-file gives white another line to attack down, and he also gains time by attacking black's queen while developing pieces. Accepting the gambit in this way is not necessarily bad for black, but he can decide to decline it instead in a number of ways including 6... a6, 6... f6 and 6... 0-0.

Alternatively, black can play 4... Bb4 (the Macutcheon Variation), when the main line continues 5. e5 h6 6. Be2 Bxc3 7. bxc3 Ne4 8. Qg4. This line is not so popular.

Early deviations

After 1. e4 e6 the usual continuation is 2. d4 d5, but white can try other moves. 2. b3 is sometimes played as a gambit (after 2... d5 3. Bb2 dex4), 2. d3 leads to a sort of King's Indian Defence with colours reversed, and 2. Qe2 and 2. Nf3 have also been tried.

ECO codes

The *Encyclopaedia of Chess Openings* includes an alphanumeric classification system for openings which is widely used in chess literature. Codes C00 to C19 are the French Defence, broken up in the following way (all apart from C00 start with the moves 1. e4 e6 2. d4 d5):

- C00 - 1. e4 e6 early deviations
- C01 - 3. dxe5 (Exchange variation)
- C02 - 3. e5 (Advance variation)
- C03 - 3. Nd2 (C03-C09 are the Tarrasch variation)
- C04 - 3. Nd2 Nc6 4. Ngf3 Nf6

- C05 - 3. Nd2 Nf6
- C06 - 3. Nd2 Nf6 4. e5 Nfd7 5. Bd3 c5 6. c3 Nc6 7. Ne2 cxd4 8. cxd4
- C07 - 3. Nd2 c5
- C08 - 3. Nd2 c5 4. exd5 exd5
- C09 - 3. Nd2 c5 4. exd5 exd5 5. Nfg3 Nc6
- C10 - 3. Nc3 (includes the Rubinstein variation, 3... dxe4)
- C11 - 3. Nc3 Nf6 (includes the Steinitz variation, 4. e5, and the Burn variation, 4. Bg5 dxe4)
- C12 - 3. Nc3 Nf6 4. Bg5 Bb4 (Macutcheon variation)
- C13 - 3. Nc3 Nf6 4. Bg5 Be7
- C14 - 3. Nc3 Nf6 4. Bg5 Be7 5. e5 Nfd7 6. Bxe7 Qxe7
- C15 - 3. Nc3 Bb4 (C15-C19 are the Winawer variation)
- C16 - 3. Nc3 Bb4 4. e5
- C17 - 3. Nc3 Bb4 4. e5 c5
- C18 - 3. Nc3 Bb4 4. e5 c5 5. a3 Bxc3 6. bxc3
- C19 - 3. Nc3 Bb4 4. e5 c5 5. a3 Bxc3 6. bxc3 Ne7 7. Nf3 and 7. a4

Grünfeld Defence

The **Grünfeld Defence** is a chess opening characterised by the moves (in algebraic notation) 1.d4 Nf6 2.c4 g6 3.Nc3 d5.

It is named after Ernst Grünfeld, the player who first employed the defence in the 1920s. The defence was later adopted by a number of prominent players, including Vasily Smyslov, Viktor Korchnoi and Bobby Fischer. Garry Kasparov has often used the defence, including in his World Championship matches against Anatoly Karpov in 1986, 1987 and 1990. In more recent years it has been regularly employed by Loek Van Wely, Peter Svidler and Luke McShane among others.

The opening relies on one of the main principles of the hypermodern school, which was coming to the fore in the 1920s - that a large pawn centre could be a liability rather than an asset. This idea is seen most clearly in the Exchange Variation of the defence: 1.d4 Nf6 2.c4

g6 3.Nc3 d5 4.cxd5 Nxd5 5.e4. Now White has an imposing looking centre - and the main continuation 5...Nxc3 bxc3 strengthens it still further - but Black hopes to undermine it with a later ...c5, which, in conjunction with Bg7, should provide good counterplay.

White can adopt a number of approaches other than the Exchange Variation. Among the more popular are 4.Nf3 Bg7 5.Qb3 (known as the Russian System or Smyslov System), and various systems based on Bf4, Bg5 or g3 and Bg2.

Nimzo-Indian Defence

The **Nimzo-Indian** Defence is a chess opening characterised by the moves 1.d4 Nf6 2.c4 e6 3.Nc3 Bb4 (in algebraic notation). In the *Encyclopedia of Chess Openings* scheme, the Nimzo-Indian is classified as E20-E59.

This hypermodern opening was developed by Latvian Grandmaster Aron Nimzowitsch who introduced it to master-level chess in the early 20th century. Unlike most Indian openings the Nimzo-Indian does not involve an immediate kingside fianchetto but instead Black attempts to undermine White's pawn centre using his bishop and doing so inflict doubled pawns.

The delay in Black committing to a pawn structure means the Nimzo-Indian is a very flexible defence to 1.d4 and can also transpose into lines of the Queen's Gambit, Queen's Indian Defence, and the Dutch Defence.

White usually responds with one of the following moves;

- 4.Qc2 - Classical Variation
- 4.a3 - Sämisch Variation
- 4.e3 - Rubinstein Variation

Hypermodernism

In chess, **Hypermodernism** is a strategy of play which controls the center of the board with distant pieces rather than with pawns, inviting the opponent to occupy the center with pawns which can then become objects of attack. One of its proponents was Aaron Nimzowitsch. His book *Mein System* (My System) was the foundation for Hypermodernism.

Endgames

Lucena Position | Zugzwang | Stalemate | Smothered Mate | Endgame Study

In chess, the **endgame** (or **end game** or **ending**) refers to the stage of the game when there are few pieces left on the board. It is the stage of the game that beginners are taught first.

The line between middlegame and endgame is often not clear, and may occur gradually or with the quick exchange of a few pairs of pieces. The endgame, however, tends to have quite different characteristics to the middlegame, and the players have quite different strategical concerns. In particular, pawns become more important; endgames often revolve around attempting to promote a pawn by advancing it to the eighth rank. The king, which has to be protected in the middlegame owing to the threat of checkmate, becomes a strong piece in the endgame. It can be brought to the centre of the board and be a useful attacking piece.

Many people have composed endgame studies, endgame positions which are solved by finding a win for white when there is no obvious way of winning, or a draw when it seems white must lose.

Endgames can be classified according to the type of pieces that remain. Some common types of endgames are discussed below.

King and pawn endgames involve only kings and pawns of both sides. Getting a *passed pawn* is crucial (a passed pawn is one which does not have an opposing pawn on its file or on adjacent files on its way to promotion). An *outside passed pawn*, a passed pawn on one of the rook files, is particularly deadly. *Opposition* is an interesting technique that is used to gain an advantage. When two kings are in opposition, they are on the same file with an empty square separating them. The player having the move *loses* the opposition. They must move their king and allow the opponent's king to advance.

Rook and pawn endgames are often drawn in spite of one side having an extra pawn. The great master Tarrasch once jocularly said "All rook and pawn endings are drawn". Rook endings are probably the deepest and most well studied endgames. Two thumb rules regarding rooks are worth noting:

- A rook on the seventh rank can wreak mayhem among the opponent's pawns. The power of a rook on the seventh rank is not confined to the endgame.
- Rooks must be placed behind passed pawns, whether one's own or the opponent's.

An important position in rook endgames is the so-called Lucena position.

In **Bishop and pawn endgames**, the mobility of the bishop is a crucial factor. A *bad bishop* is one that is hemmed in by pawns of its own color, and has the burden of defending them.

Endings with *bishops of opposite color* are notorious for their drawish character. They are often drawn even when one side has a two pawn advantage.

Knight and pawn endgames feature clever maneuvering by the knights to capture opponent pawns. While a knight is poor at chasing a passed pawn, it is the ideal piece to block a passed pawn.

In **Queen and pawn endings**, the dominant theme is for the player with more pawns to avoid *perpetual check* and advance one of his pawns to get a second queen.

Endings with asymmetric piece possession are less common. A bishop is usually worth more than a knight. A bishop and knight are worth roughly a rook and two pawns, and a queen is worth a rook, a *minor piece* (bishop or knight) and two pawns. Three pawns are often enough to win against a minor piece, but two pawns rarely are.

Endings with no pawns. A queen or a rook (plus king) can easily checkmate a lone king, and a king and queen can win against king and rook (although it is not always easy to convert). Two bishops can also mate a lone king (providing the bishops move on opposite colour squares) as can a bishop and knight (though this mate is difficult for a player who does not know the correct technique). Two knights cannot force checkmate against a lone king, but if the weaker side also has a pawn, checkmate is sometimes possible, because positions which would be stalemate without the pawn are not (specifically, the pawn must be blocked by a knight behind the Troitzky line).

In general, the player with a material advantage tries to exchange pieces and reach the endgame. In the endgame, it is better for the player with more pawns to exchange pieces but not pawns because king and pawn endings are the most easily won. Also, endings with pawns on both sides of the board are much easier to win.

With the recent growth of computer chess, an interesting development has been the creation of endgame databases which are tables of stored positions calculated by retrograde analysis. A program which incorporates knowledge from such a database is able to play perfect chess on reaching any position in the database.

See chess terminology for definitions of commonly used chess terms.

Lucena position

The **Lucena position** is one of the most famous and important positions in chess endgame theory.

It is named after the Spaniard Luis Ramirez Lucena, although is something of a misnomer, because the position does not in fact appear in his book on chess, *Repetición de Amores e Arte de Axedrez* (1497). It does appear, however, in Alessandro Salvio's *Il Puttino* (1634), a

romance on the career of the chess player Leonard da Cutri, and it is in that form that it is given here.

The position is shown to the right (it should be noted that the position can be moved as a whole so that the pawn is on any of the files b-g). White's aim is to either promote his pawn or else compel Black to give up his rook for it. Either result will leave White with an overwhelming material advantage and a straightforward win. White has managed to advance his pawn to the seventh rank, but it prevented from queening because his own king is in the way. White would like to move his king and then promote his pawn, but is prevented from moving to the a-file by the black rook, and prevented from moving to the c-file by the black king.

An obvious approach by White such as 1.Rd1+ Ke7 2.Kc7 gets nowhere (these moves are given in algebraic notation). Black can simply harass the white king with checks, and white makes no progress: 2...Rc2+ 3.Kb6 Rb2+ 4.Ka7 Ra2+ 5.Kb8 brings White back where he started.

White can win, however, with 1.Rd1+ Ke7 2.Rd4. Now, if black plays a "nothing" move, like 2...Ra1, hoping to harass the White king with checks again as in the above variation, white continues 3.Kc7 Rc2+ 4.Kb6 Rb2+ 5.Kc6 (or Ka6) Rc2+ 6.Kb5 Rb2+ 7.Rb4. Black cannot prevent the pawn from queening. White shielding his king and pawn with the rook in this way is known as "building a bridge".

Alternative approaches are no better for Black. 2...Rb2, for example, stopping White from carrying out his plan, fails to 3.Ra4 followed by 4.Ka8 or 4.Ka7 and queening the pawn. For example, 1.Rd1+ Ke7 2.Rd4 Rb2 3.Ra4 Kd7 4.Ka7 Kc7 5.Rc4+ chases the black king away and allows the pawn to promote.

Because the endgame rook and pawn versus rook occurs quite often in chess, this position is very important. As it is a known win, endgames sometimes revolve around one player trying to reach the Lucena position and the other trying to prevent it.

References

- Reuben Fine, *Basic Chess Endings* (1941) - diagram 307 is the Lucena position
- John Roycroft, *Test Tube Chess* (Faber, 1972) - diagram 80 is the Lucena position
- Jon Speelman, *Batsford Chess Endings* (Batsford, 1993) - diagram R3 (page 228) is the Lucena position

Zugzwang

In chess, **zugzwang** (German for "compulsion to move") occurs when one player is put at a disadvantage because he has to make a move - the player would like to pass and make no move, but the fact that they *must* make one means they are forced into weakening their position.

Zugzwang most often occurs in the endgame when the number of pieces, and so the number of possible moves, is reduced, and the exact move chosen is often more critical.

The game Fritz Saemisch - Aaron Nimzowitsch, Copenhagen 1923, is sometimes called the "Immortal Zugzwang game" because the final position is widely accepted as being an extremely rare instance of zugzwang occurring in the middlegame. It ended with white resigning in this position.

White has a few pawn moves which do not lose material, but eventually he will have to move one of his pieces. If he plays Rc1 or Rd1 (see algebraic notation) then ...Re2 traps white's Queen; Kh2 fails to ...R5f3, also trapping the queen (white cannot play Bxf3 here because the bishop is pinned to the king); g4 runs into ...R5f3 Bxf3 Rh2 mate. Other white moves lose material in more obvious ways. Whether this is true zugzwang is debatable however, because even if white could pass his move he would still lose after ...R5f3 Bxf3 Rxf3, when his queen is again trapped.

Stalemate

Stalemate is a situation in chess whereby one player has no legal moves but is not in check (that is, his king is not attacked, but all his moves would place it under attack). Stalemate ends the game, with the result a draw. The term has since come to mean any situation where two sides have no "safe" courses of action, for instance, the position of the United States and Soviet Union during the Cold War when neither side could build defensive systems for fear of a pre-emptive attack.

With black to move, each of the four black kings shown to the right is stalemated. Stalemate is an important factor in the endgame - the set-up in the top-right of this diagram, for example, quite frequently occurs in play, and the position in the bottom-left is an example of a pawn being worth as much as a queen (even if it were white's move, there is no way to avoid this stalemate without allowing black to promote his pawn). Stalemates of this sort can often save a player from losing an apparently hopeless position.

Smothered mate

In chess, a **smothered mate** is a delivered by a knight in which the mated king is unable to move because he is surrounded (or *smothered*) by his own pieces.

The mate is usually seen in a corner of the board, since fewer pieces are needed to surround the king there. The most common form of smothered mate is seen in the diagram to the right. The knight on f7 delivers mate to the king on h8 which is prevented from escaping the check by the rook on g8 and the pawns on g7 and h7 (see algebraic notation for an explanation of this notation). Similarly, white can be mated with his king on h1 and the knight on f2. Analogous mates on a1 and a8 are rarer, because king-side castling is more common than queen-side, and because after king-side castling the king is closer to the corner than it is after queen-side.

For a smothered mate of this sort to occur in a game, it is usually necessary to sacrifice material to compel pieces to smother the king - a player is unlikely to voluntarily surround his king with pieces in a position where a smothered mate is possible. One method is particularly common - an example is to be found in the game between Jan Timman (white) and Nigel Short (black) at the 1990 Tilburg tournament. From the diagrammed position, play continued 27.Nf7+ Kg8 28.Nh6+ Kh8 29.Qg8+ Rxg8 30.Nf7#. The procedure is: check with the knight, then move the knight away to deliver a discovered check from the queen, then sacrifice the queen to force the rook next to the king, then mate with the knight.

This technique is so common as to have its own name: *Phildor's Mate* or *Philidor's Legacy* (after François-André Danican Philidor). This is something of a misnomer, however, as it is first described in Luis Ramirez Lucena's 1497 text on chess, *Repetición de Amores e Arte de Axedrez*, which predates Philidor by several hundred years.

Occasionally, a smothered mate may be possible in the opening of a game. One particularly famous example is the so-called "Blackburne Shilling Gambit" (named after the 19th century English player Joseph Henry Blackburne, supposedly because he used it to win shillings from amateurs). It goes: 1.e4 e5 2.Nf3 Nc6 3.Bc4 Nd4 4.Nxe5 Qg5 5.Nxf7 Qxg2 6.Rf1 Qxe4+ 7.Be2 Nf3# (final position to the right). Note that the knight cannot be taken because the bishop on e2 is pinned to the white king by the queen.

An example of a similar smothered mate in master-level play is the game between Edward Lasker (white) and Israel Horowitz (black) in New York City, 1946, which went: 1.d4 Nf6 2.Nf3 d5 3.e3 c5 4.c4 cxd4 5.Nxd4 e5 6.Nf3 Nc6 7.Nc3 d4 8.exd4 exd4 9.Nb5 Bb4+ 10.Bd2 0-0 11.Bxb4 Nxb4 12.Nbxd4 Qa5 13.Nd2 Qe5+ 14.Ne2 Nd3#

Endgame study

An **endgame study**, or just **study**, is a composed chess position (that is, one that has been made up rather than one from an actual game) presented as a sort of puzzle, in which the aim of the solver is to find a way for white, moving first, to win or draw, as stipulated, against any moves that black plays.

To the extent that they are composed positions and offer the solver a specific task, studies are similar to chess problems in which to stipulation is to "checkmate balck in two moves

against any defence", for example. However, while problems often present very artificial looking positions, studies often appear that they could occur in a game.

As with problems, for a study to be regarded as a good one, it must have only one solution. Some argue that white must only have only one move at each juncture to achieve his aim, though some feel that minor alternatives (such as a choice of moving a knight b1-c3-b5 or b1-a3-b5; see algebraic notation for an explanation of this notation) are permissible.

Composed studies predate the modern form of chess. Shatranj studies exist in manuscripts from the 9th century, and the earliest treatises on modern chess by the likes of Lucena and Damiano (late 15th and early 16th century) also include studies. However, these studies often include superfluous pieces, added to make the position look more "game-like", but which take no part in the actual solution (something that is never done in the modern study). Various names were given to these positions (Damiano, for example, called them "subtelties"); the first book which called them "studies" appears to be *Chess Studies*, an 1851 publication by Josef Kling and Bernhard Horwitz, which is sometimes also regarded as the starting point for the modern endgame study.

Most famous study composers, such as A. A. Troitzky and Genrikh Kasparyan, are known primarily for their studies, being little known as players. However, some players have also composed endgame studies, with Richard Réti being perhaps the most notable.

To the right is an example study by Réti, one of the most famous studies of all time (first published 1922 in *Neueste Schachnachrichten* and reproduced many times since). It is white to play and draw. At first sight, this seems an impossible task: if white tries to chase after black's pawn he can never catch it (1. Kh7 h4 2.Kh6 h3 etc is clearly hopeless), while it is clear that black will simply take white's pawn if he tries to promote it.

White can draw however, by taking advantage of the fact that his king can move in two directions at once: towards black's pawn and towards his own. The solution is 1.Kg7 h4 2.Kf6 Kb6 (if 2...h3 then 3.Ke7 and 4.Kd7 allows white to promote his pawn) 3.Ke5!. Now, if 3...Kxc6 then 4.Kf4 stops black's pawn after all, while if 3...h3 4.Kd6 allows white to promote his own pawn. Either way, the result is a draw.

Not all studies are as simple as the above Réti example; the study to the right is by Kasparyan (first published in *Magyar Sakkélet*, 1962). White is to play and draw. The main line of the solution is 1.Ra1 a2 2.Ke6 Ba3 3.Bf4 Bb2 4.Be5 a3 5.Kd5 Bg6 6.Bd4 Bf7+ 7.Ke4 Bc4 8.Rg1, but there are various alternatives for both sides. For example, white could try 1.Bf4 on his first move, with the idea 1...Bxa2 2.Bxd6 and 3.Bxa3 is a draw, but black can defeat this idea with 1...Bxf4 2.Rax3 Bc2, which wins. To understand why one move works and another one does not requires quite advanced chess knowledge. Indeed, it will not be obvious to many players that the position at the end of the given line is a draw at all.

Further reading

- John Beasley and Timothy Whitworth, *Endgame Magic* (Batsford, 1996) - an introduction to the subject

- A. J. Roycroft, *Test Tube Chess* (Faber, 1972) - a general overview of studies, including 433 examples

Problems & Puzzles

Terminology | Sam Loyd | Albino | Allumwandlung | Helpmate | Shortest Proof Game | Babson Task | Devices | Chess Puzzle

Chess problem

A **chess problem** is a puzzle set by a composer using chess pieces on a chess board, presenting the solver with a particular task to be achieved. For instance, a position might be given with the instruction that white is to move first, and checkmate black in two moves against any possible defence. There is a good deal of specialised jargon used in chess problems; see chess problem terminology for a list.

Exactly what constitutes a chess problem, is, to a degree, open to debate. However, the kinds of things published in the problem section of chess magazines, in specialist chess problem magazines, and in collections of chess problems in book form, tend to have certain common characteristics:

1. The position is *composed* - that is, it has not been taken from an actual game, but has been invented for the specific purpose of providing a problem.

2. There is a specific aim, for example, to checkmate black within a specified number of moves. This distinguishes problems from positions taken from games or game-like positions where the task is simply to find the best move.

3. There is a *theme* and the problem is aesthetically pleasing. A problem's theme is an underlying idea, giving coherence and beauty to its solution. It is this aesthetic element, as much as the challenge of actually solving the problem, which makes chess problems attractive to many people.

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Types of problem

There are various different types of chess problem:

- Directmates - white to move first and checkmate black within a specified number of moves against any defence. These are often referred to as "mate in n", where *n*

is the number of moves within which mate must be delivered. In composing and solving competitions, directmates are further broken down into three classes:

  - Two-movers - white to move and checkmate black in two moves against any defence
  - Three-movers - white to move and checkmate black in no more than three moves against any defence
  - More-movers - white to move and checkmate black in a given number of moves more than three against any defence

- Helpmates - black to move first cooperates with white to get his own king mated via legal moves
- Selfmates - white moves first and forces black to checkmate white's king against black's will
- Reflexmates - a selfmate in which each player *must* give mate if they are able to do so on their turn. When this stipulation applies only to black, it is a *semi-reflexmate*.
- Series-movers - one side makes a series of moves without reply to achieve a stipulated aim. Check may not be given except on the last move. A series-mover can be a:
  - Series-mate - a directmate with white playing a series of moves without reply to checkmate black
  - Series-helpmate - a helpmate in which black plays a series of moves without reply, and then white plays one move to checkmate black
  - Series-selfmate - a selfmate in which white plays a series of moves leading to a position in which black is forced to give mate
  - Series-reflexmate - a reflexmate in which white plays a series of moves leading to a position in which black can, and therefore must, give mate

All the above may also be found in forms of fairy chess - chess played with unorthodox rules, possibly using fairy pieces (unorthodox pieces).

In addition, there is the study, in which the stipulation is that white to play must win or draw. Almost all studies are endgame positions. Because the study is composed it is related to the problem, but because the stipulation is open-ended (the win or draw does not have to be achieved within any particular number of moves) it is usually thought of as separate from

the problem. However, particularly long more-movers sometimes have the character of a study - there is no clear dividing line between the two.

In all the above types of problem, castling is assumed to be allowed unless it can be proved by retrograde analysis (see below) that the rook in question or king must have previously moved. En passant captures, on the other hand, are assumed *not* to be allowed, unless it can be proved that the pawn in question must have moved two squares on the previous move.

There are several other types of chess problem which do not follow the usual chess pattern of two sides playing moves towards checkmate. Some of these, like the knight's tour are essentially one-offs, but other types have been revisited many times, with magazines, books and prizes being dedicated to them:

- Retrograde analysis - this is the act of working out from a given position, what previous move or moves have been played. A problem employing retrograde analysis may, for example, present a position and carry the stipulation "Find white's last move" or "Has the bishop on c1 moved?". Problems such as these in which retrograde analysis is the main point are commonly called *retros*. Retrograde analysis may also have to be employed in more conventional problems (directmates and so on) to determine, for example, whether an *en passant* pawn capture or castling is possible. The most important sub-set of retro problems are:

- Shortest proof games - the solver must construct a game, starting from the normal initial position in chess, which ends with the position in a given diagram. The two sides cooperate to reach the position, but all moves must be legal. Usually the number of moves required to reach the position is given, though sometimes the task is simply to reach the given position in the shortest possible number of moves.

- Construction task - no diagram is given in construction tasks; instead the aim is to construct a game or position with certain features. For example, Sam Loyd devised the problem: "Construct a game which ends with black delivering discovered checkmate on move four" (published in *Le Sphinx*, 1866; the solution is 1.f3 e5 2.Kf2 h5 3.Kg3 h4+ 4.Kg4 d5#). Some construction tasks ask for a maximum or minimum number of something to be arranged, for example a game with the maximum possible number of consecutive discovered checks, or a position in which all sixteen pieces control the minimum number of squares.

Beauty in chess problems

There are no official standards by which to distinguish a beautiful problem from a poor one, and judgement varies from individual to individual as well as from generation to generation, but modern taste generally recognizes the following elements as being important if a problem is to be regarded as beautiful:

- The problem position must be legal. That is to say, the diagram must be reachable via a legal chess game which begins from the standard opening position. It is not considered a defect if the diagram can only be reached via a game containing gross blunders. Chess problems, on the whole, are not created for the purpose of practical chess training.

- The first move of the problem's solution (the *key move* or *key*) must be unique. A problem which has two keys is said to be *cooked*, and would not be published in any magazine. An exception is problems which intentionally have more than one solution, which compliment or contrast each other in some way - this type of problem is particularly common in helpmates.

- Some would say that, ideally, there should only be one possible white move after *every* black move, although this is not nearly so important. A choice of white moves other than the first move is a *dual*. Duals are often excusable if the problem is strong in other regards.

- The solution should be explicable in terms of a theme or themes, rather than emerging from disjointed calculation. Many of the more common themes have been given names by problemists (see chess problem terminology for a list).

- The key move of the solution should be unobvious. Obvious moves such as checks, captures, and (in directmates) moves which restrict the movement of the black king, make for bad keys. Keys which deprive the black king of some squares it could move to (*flight squares*) but at the same time surrender an equal or greater number of flights are acceptable. Key moves which prevent the enemy from playing a checking move are also undesirable, particularly in cases where there is no mate provided after the checking move.

- Every piece on the board should serve a purpose, either to enable the actual solution, or to exclude alternative solutions. Extra units should not be added to create "red herrings" (this is called *dressing the board*), except in rare cases where this is part of the theme. If the theme can be shown with fewer total units, it should be.

- The problem should exhibit economy of moves. If the theme can be shown in fewer moves, it should be.

Further reading

- Andrei Frolkin and Gerd Wilts, *Shortest Proof Games* (1991) - a collection of 170 proof games (published in Germany, but in English)

- Michael Lipton, R. C. O. Matthews and John Rice, *Chess Problems: Introduction to an Art* (Faber, 1963)

- Jeremy Morse, *Chess Problems: Tasks and Records* (Faber and Faber, 1995, revised edition 2001) - concentrates on maximum tasks and records

- John Nunn, *Solving in Style* (1985) - problems seen from the point of view of the solver

- John Rice, *Chess Wizardry: The New ABC of Chess Problems* (Batsford, 1996) - a general overview of chess problems, including an extensive A-Z of themes and terms, and 460 problems. Widely regarded as the best single-volume work in English on the subject.

Terminology

Tactical Problems | Collection

Chess problem terminology

This is a list of terms used in chess problems. For a list of unorthodox pieces used in chess problems, see fairy chess piece. For a list of terms used in chess is general, see chess terminology.

- **Actual play** - see *post-key play*.

- **Albino** - a problem in which, at some point in the solution, a white pawn on its starting square makes each of its four possible moves (forward one square, forward two squares, capture to the left, capture to the right). If the same behaviour is exhibited by a black pawn, it is a *Pickaninny*.

- **Allumwandlung** - a problem in which the solution includes pawn promotions to all possible pieces (in orthodox chess, to bishop, knight, rook and queen; in *fairy chess*, possibly to fairy pieces).

- **Anticipated** - if the *theme* and setting of a particular problem has already appeared in an earlier problem without the knowledge of the later composer, the problem is said to be *anticipated*. The position does not have to be *exactly* the same, just very similar. Where this is done deliberately by the later composer, the term *plagiarised* is more appropriate. There is a real chance of anticipation if the problem has a realitvely simply theme, since there are only a finite number of positions and themes, and chess problems have been composed for hundreds of years. However, anticipations are not always noticed immediately.

- **Aristocrat** - a problem which has no pawns in the initial position.

- **Babson task** - a problem in which black promotion defences to all possible pieces are answered by white promotions to the same piece black has promoted to. An extreme form of *Allumwandlung*.

- **Block** - a problem in which the *key* provides no *threat*, but instead puts black in a position of zugzwang, where every move leads to a mate. In a *complete block*, all of black's moves have mates provided in the *set play* and the key is simply a waiting move; in an *incomplete block*, not all black moves are provided with mates in the set play - the key provides for those that don't; in a *mutate* some of the mates provided in the set play are changed following the key.

- **By-play** - variations not directly connected to the problem's *theme*.

- **Clearance** - in general, the movement of one piece so that another can move to a particular square. In *square vacation* the first piece moves so that the second can occupy the square on which it stood; in *line vacation* the first piece moves so that the second can pass over the square on which is stood on the way to its destination; *line clearance*, also known as the *Bristol*, is a particular type of line vacation in which a piece moves along a line so that another piece can move a shorter distance behind it along the same line.

- **Cook** - a second *key* move, unintended by the composer. A cook is a serious flaw, and invalidates a problem. The publication of cooked problems was once common, but in the modern era computers can be used to check for cooks, and cooked problems are rarely published.

- **Cylindrical board** - a board in which the a and h-files are considered to be connected (a "vertical cylinder") or the first and eighth ranks are connected (a "horizonal cylinder"). A combination of the vertical and horizontal cylinders is called an "anchor ring".

- **Directmate** - a type of problem where white, moving first, is required to checkmate black in a specified number of moves against any defence. Such a problem is usually indicated by the stipulation "mate in two" (or however many moves is necessary) or "checkmate in two". The term *directmate* is useful to distinguish these sorts of problems from *helpmates*, *selfmates*, *reflexmates* and others.

- **Dual** - ideally, white should have only one move at each juncture which solves a problem - if white has an alternative at any stage other than the first move, this is a *dual*. A dual is not as serious a flaw as a *cook*, and in minor lines, duals may be permissible (opinions differ on this point). Some problems make a virtue out of *dual avoidance* - of two apparently equivalent white moves, only one works.

- **Duplex** - a type of problem in which there are two solutions, the second one reversing the roles of the colours in the first. The most common type is the duplex *helpmate*, in which the two solutions to be found are: black moves first and cooperates with white to be mated; and white moves first and cooperates with black to be mated.

- **Economy** - economy is generally regarded as a good thing in chess problem composition, though exactly what is meant by it, and exactly what it is most important to be economical with, is open to debate. Eceonomy of material or force (not using more pieces than necessary), economy of space (using the chessboard to its fullest, not cramming all the pieces into one corner) and economy of motivation (keeping all lines in the solution relevent to the *theme*) are all regarded as important.

- **Excelsior** - a problem in which a pawn on its starting square in the initial position moves the length of the board to be promoted during the course of the solution. Named after one such problem by Sam Loyd.

- **Fairy chess** - chess played with non-orthodox rules. Examples are *circe*, *maximummers*, problems with unorthodox pieces (fairy pieces) and problems with unorthodox boards (such as *cylindrical boards*, or *grid boards*).

- **Flight (square)** - a sqaure to which the black king can legally move (that is, one not guarded by a white piece, and not occupied by a black piece). If black plays a piece to one of these squares, thus decreasing the king's mobility, it is a *self-block*. If he moves a piece from one of these squares, it is *square-vacation*.

- **Grid-board** - a kind of board used in *fairy chess* which is divided into a grid of 16 2x2 squares. For a move to be legal, the moving piece must pass over at least one of these grid-lines.

- **Grimshaw** - a common device featuring two black pieces mutually interfering with each other on a single square.

- **Heavy** - adjective applied to a problem which has a relatively large number of pieces in the initial position. Heaviness should be avoided where possible in the interests of *economy*.

- **Helpmate** - a type of problem where white and black cooperate to put black in mate within a specified number of moves. Unless otherwise specified, black moves first in helpmates. See also *duplex*.

- **Interference** - the closure of the line of one piece by a second piece, thus limiting its movement and cutting it off from certain squares. Various names are given to

particular types of interference, among them *Grimshaw*, *Novotny*, *anti-Bristol*, *Holzhausen*, *Wurzburg-Plachutta* and *Plachutta*.

- **Key** - the first move of a solution. A problem which unintentionally has more than one key is said to be *cooked*.

- **Light** - adjective applied to a problem which has a relatively small number of pieces in the initial position. Lightness is usually desirable in the interests of *economy*.

- **Maximummer** - a problem in which black must make the geometrically longest moves available to him, as measured from square-centre to square-centre. If two or more longest moves of equal length are available, black may choose between them. This stipulation is most often attached to *selfmates*.

- **Meredith** - a problem with no less than eight and no more than twelve pieces on the board in the starting position. A problem with less than eight pieces is a *miniature*.

- **Miniature** - a problem with no more than seven pieces on the board in the initial position.

- **More-mover** - a *directmate* with the stipulation "white to move and checkmate black in no more than n moves against any defence" where n is greater than 3. In composition tourneys, there are often separate classes for more-movers, *two-movers* and *three-movers* (as well as classes for *helpmates*, *selfmates* and others).

- **Mutate** - a type of *block* problem in which at least one mate in the *set play* is changed following the *key*.

- **Novotny** - a sacrificed white piece can be taken by two differently-moving black pieces--whichever piece makes the capture, it interferes with the other. Essentially a *Grimshaw* brought about by a white sacrifice on the critical square.

- **Phase (of play)** - play after the *key*, after *tries* and *set play* each constitutes a *phase of play*. A problem with set play is said to have *two phases* (the set play being one phase, the *post-key play* being another); a problem with three tries would be a *four phase* problem (each try being one phase, with the post-key play the fourth). Play in different phases will sometimes relate to each other.

- **Pickaninny** - a problem in which, at some point in the solution, a black pawn on its starting square makes each of it's four possible moves (forward one square, forward two squares, capture to the left and capture to the right). If the same behaviour is exhibited by a white pawn, it is an *albino*.

- **Plachutta** - a sacrificed white piece can be taken by two similarly-moving black pieces--whichever piece makes the capture, it interferes with the other. Essentially a pair of *Holzhausen* interferences (or a *Warzburg-Plachutta* interference) brought about by a white sacrifice on the critical square.

- **Post-key play** - the play following the *key*, that is, the lines of play which fulfill the stipulation of the problem. This is opposed to *set play* and *virtual play* (both of which may also be important elements in the attractiveness of a problem).

- **Proof game** - a type of problem in which the job of the solver is to construct a game of a given number of moves in which the final position is the one given by the composer. A kind of *retrograde analysis*.

- **Reflexmate** - a *selfmate* in which both sides must deliver checkmate if they are able to do when it is their move. A problem where this stipulation applies only to black is a *semi-reflexmate*.

- **Retrograde analysis, retroanalysis** - deduction of the move or moves leading up to a given position. A problem may be completely made up of retrograde analysis (as in a *proof game*, or a problem in which the task is to determine black's last move, for example), or it may be a part of some larger problem (for example, it may be necessary to determine that black has moved his king leading up to a given position, meaning he is unable to castle, and thus rendering correct a solution which would be otherwise incorrect).

- **Round trip** - a piece leaves a square, and then later in the solution returns to it by a circuitous route (for example, a rook moves e3-g3-g5-e5-e3). Compare with *switchback*, in which the route taken to the original square is direct.

- **S** - in algebraic notation, the letter *N* is usually used to indicate the knight. In chess problems, however, the letter *S* (standing for *Springer*, the German name for the knight) is often used instead, with N instead being reserved for the popular fairy piece, the nightrider.

- **Selfmate** - a type of problem where white forces black to mate him against black's will within a specified number of moves.

- **Series-mover** - a problem in which one side makes a series of moves without reply.

- **Set play** - play which would be possible from the initial position of a problem if it was the other player to move first. For example, in a *directmate*, *set play* consists of lines of play starting with a black move (rather than a white move). When set play exists, the *key* move may be something which does not change the set play

lines, in which case the problem is a complete *block*, or the lines in the set play may change, in which case the problem is a *mutate*. Set play is one *phase of play*.

- **Switchback** - a piece leaves a square, and then later in the solution returns to it by the same route (for example, a rook moves e3-e5-e3). Compare with *round trip*, in which the route taken back to the original square is circuitous.

- **Theme**: the underlying idea of a problem, which gives it logic, coherence and beauty.

- **Threat** - a move or variation which white will play (usually following his *key*) if black does nothing to defend against it. Problems which do not have threats following the key are *blocks*.

- **Three-mover** - a problem with the stipulation "white to move and checkmate black in no more than three moves against any defence". In composition tourneys, there are often separate classes for three-movers, *two-movers* and *more-movers* (as well as classes for *helpmates*, *selfmates* and others).

- **Try** - a move which almost solves a problem, but is defeated by a single black defence, as opposed to the *key* (which actually does solve the problem). Variations after tries are called *virtual play* and may be an important part of what makes some problems pleasing.

- **Twin** - two or more problems which are slight variations on each other, composed by the same person. The variation is usually brought about by adding, removing or moving a piece in the initial setup.

- **Two-mover** - a problem with the stipulation "white to move and checkmate black in two moves against any defence". In composition tourneys, there are often separate classes for two-movers, *three-movers* and *more-movers* (as well as classes for *helpmates*, *selfmates* and others).

- **Version** - said of a problem which is an adaptation of an earlier one (it may have been altered to improve its *economy* or to eliminate a *cook*).

- **Virtual play** - the play following a *try*, as opposed to *set play* and *post-key play*.

References

- John Rice, *Chess Wizardry: The New ABC of Chess Problems* (London, Batsford, 1996)

Tactical chess problems

These are chess problems. The goal is to find the "best" move for each position. Answers can be found by clicking on the images.

See:

- Chess
  - Algebraic Notation
  - Openings
  - Strategy
  - Tactics
- **Opening: A00**

Collection of chess problems

These are chess problems. The goal is to find the "best" move for each position. Answers can be found by clicking on the image.

- tactical chess problems

See:

- chess
- chess openings
- chess strategy

Sam Loyd

Samuel Loyd (January 31, 1841 - April 10, 1911) was an American puzzle author and recreational mathematician.

Loyd claimed to have invented the famous fifteen puzzle. He also authored a number of chess problems, often with witty themes of solutions. Following his death, his book *Cyclopedia of Puzzles* was published (1914).

Books

- *Mathematical Puzzles of Sam Loyd*: Selected and edited by Martin Gardner.
- *The Puzzle King : Sam Loyd's Chess Problems and Selected Mathematical Puzzles,* edited by Sid Pickard.

Albino

An **Albino** is a chess problem in which, at some stage in the solution, a white pawn standing on its starting square makes each of its four possible moves: one square forward, two squares forward, capture to the left and capture to the right. When a black pawn exhibits similar activity, it is instead termed a Pickaninny.

The nature of the Albino theme is such that in orthodox chess there must be at least four variations to show the four different moves of the white pawn. However, if the rules of circe chess are applied, the number of required variations can be reduced to two (circe is a chess variant in which captured pieces, rather than being removed from the board, are returned to their home squares).

Allumwandlung

An **Allumwandlung** (German for "complete promotion", sometimes shortened to **AUW**) is a chess problem where, at some stage in the solution, a pawn (or sometimes pawns) is promoted variously to a knight, bishop, rook and queen.

The importance of white's underpromotions can be understood by considering what happens if he promotes to a queen no matter what black plays: after 1... exf4 or 1... exd4 2. f8Q is stalemate, while following 1... Kf6 2. f8Q Kxg6 there is no mate.

Helpmate

A **helpmate** is a kind of chess problem in which black moves first and helps white to checkmate him within a specified number of moves. In a helpmate in two (sometimes abbreviated to *h#2*), for example, the solution consists of a black move, a white move, a black move, and then another white move, giving checkmate. It should be noted that although the two sides are cooperating, all moves must be legal according to the rules of chess.

Note that in helpmate solutions, black's move is given first, which is the opposite to normal algebraic notation.

Because the nature of helpmates sees black and white cooperating, the play in helpmates can be a great deal simpler than in directmates (the most common type of problem, where white tries to checkmate black, and black tries to avoid being mated). In directmates a great variety

of play can be found in the solution because although white has only one move at each juncture which will solve the problem, black can chose between several to try and thwart white's efforts. In helpmates, however, both white and black's moves are limited to just one at each juncture.

In order to introduce more lines of play into a problem, various devices can be employed. Most straight-forwardly, a problem can have more than one solution. The solutions will usually complement each other in some way, either by being analogous or by completely contrasting. Each solution can be considered a different phase of play (see chess problem terminology). If there is more than one solution, the composer will state this; if there is no such statement, the problem has only one solution.

Another way of giving variety to the play of a helpmate is *twinning*. Here, more than one problem is wrought from a single diagram by making small changes to it, such as moving a piece from one square to another, adding or removing a piece, turning the board round or some other device. Twinning is occasionally found in other types of problems, but is particularly common in helpmates.

A further variation is the *duplex*, another way of getting two problems for the price of one. The first problem is a normal helpmate, the second is from the same position but has white moving first and helping black to checkmate him. Again, duplex problems have been composed with other types of problems, but the vast majority are helpmates.

A helpmate may also be a *seriesmover*, in which black makes a series of moves without reply at the end of which white makes a single move, giving checkmate. Black may not expose his king to check during the series, nor can he check white, except on the last move.

Helpmates, like other problems, can be composed with fairy chess pieces or with fairy conditions (chess variant rules), such as circe chess, grid chess or patrol chess. All of these variants can be, and have been, combined - so it is possible to have a series-helpmate in seven, twinned with two solutions in each phase, using nightriders and Madrasi chess.

Further reading

- Chris Feather, *Black to Play* (F. Chlubna, Vienna, 1994) - a general survey of helpmates

Shortest proof game

A **shortest proof game** (or simply **proof game**) is a type of chess problem in which the solver must construct a game, starting from the initial position in chess, which ends with a given position after a given number of moves (sometimes no number of moves is given and the task is simply to construct the shortest possible game ending with the given position).

When published, shortest proof games will normally present the solver with a diagram - which is the final position to be reached - and a caption such as "SPG in 9.0". "SPG" here is short for "shortest proof game" and the "9.0" indicates how many moves must be played to reach the position; 9.0 means the position is reached after black's ninth move, 7.5 would mean the position is reached after seven and a half moves (that is, after white's seventh move) and so on. Sometimes the caption may be more verbose, for example "Position after white's seventh move. How did the game go?".

All published SPGs will have only one solution: not only must the moves in the solution be unique, the order of them must also be unique. They can present quite a stern challenge to the solver, especially as assumptions which might be made from a glance at the initial position often turn out to be incorrect (a piece apparently standing on its initial square may turn out to actually be a promoted pawn, for instance).

Most SPGs have a solution from about six to about thirty moves, although examples with unique solutions more than fifty moves long have been devised.

There are a number of variations on SPGs. The problem may carry a stipulation similar to "Find a game with 8.b7-b8=N mate", which simply means a game must be constructed starting from the initial position and ending on the given move number with the given move. Or it may be a *one-sided proof game*, in which only white makes moves (this is the SPG analogue to the *series-mover* in other types of chess problems). An alternative rule-set may also be specified (such as circe chess or losing chess), or a fairy piece may be substituted for an orthodox piece.

A number of chess problem composers have specialised in SPGs, with one of the most notable examples being Michel Caillaud who did much to popularise the genre in the 1970s and 1980s.

Further reading

- Gerd Willts and Andrei Frolkin, *Shortest Proof Games* (1991) - published in German but written in English. Includes 170 examples.

Babson task

The **Babson task** is a kind of chess problem (composition chess) of the form "white to move and mate black in N moves against any defence" with the following play:

1. White makes his first move.
2. Black defends by promoting a pawn to queen, rook, bishop or knight.
3. White responds by promoting a pawn to queen, rook, bishop or knight respectively (if black promoted to rook, so does white, if black promoted to

knight, so does white and so on). No other promotion (or any other move) leads to mate in the stipulated number of moves.

The task is named after the first person to speculate about the possibilty of such a problem, Joseph Ney Babson. It is regarded as one of the greatest challenges for a composer of chess problems to devise a satisfying Babson task problem, and for around half a century the task was considered to be near-impossible in directmate form.

Technically, the task can be regarded as a form of Allumwandlung with corresponding promotions by black and white (an Allumwandlung is a problem which contains, at some point in the solution, promotions to each of the four possible pieces - such problems had already been composed before Babson devised his task).

Further reading

- Jeremy Morse, *Chess Problems Tasks and Records* (Faber and Faber, 1995, revised edition 2001) - contains a chapter on the Babson task

Devices

Grimshaw | Novotny | Plachutta

Grimshaw

A **Grimshaw** is a device found in chess problems in which two black pieces arriving on a particular square mutually interfere with each other. It is named after the 19th century problem composer Walter Grimshaw.

The Grimshaw is one of the most common devices found in directmates. The pieces involved are usually rook and bishop, as in the above example, although Grimshaws involving pawns are also seen.

Sometimes, multiple Grimshaws can be combined in the one problem.

A close relative of the Grimshaw is the Novotny, which is essentially a Grimshaw brought about by a white sacrifice on a square where it can be captured by two different black pieces - whichever black piece captures the white piece, it interferes with the other.

Novotny

The **Novotny** is a device found in chess problems. A white piece is sacrificed on a square where it could be taken by two different black pieces - whichever black piece makes the capture, it interferes with the other. It is essentially a Grimshaw brought about by a white sacrifice on the critical square.

This pattern could conceivably arise as part of a combination in an actual game, but it is extremely rare, and would probably not be called a "Novotny" if it happened--use of the term *Novotny* is essentially limited to the context of chess problems.

Problemists would generally agree that a single Novotny with no other play, as in this example, makes for a relatively uninteresting problem. Usually, Novotnys are combined in problems with other ideas, or several Novotnys are shown in a single problem.

Many problems include a Novotny as part of some larger scheme.

Plachutta

The **Plachutta** is a device found in chess problems: a white piece sacrifices itself on a square where it could be captured by one of two similarly-moving black pieces (for example, a bishop and a queen moving along a diagonal, or two rooks) moving along a different line; whichever black piece captures, it interferes with the other.

The Plachutta is related to a number of other problem themes: it can be regarded as a Wurzburg-Plachutta brought about by a white sacrifice on the critical square (a Wurzburg-Plachutta itself being a pair of Holzhausen interferences); or it can be thought of as a Novotny with similarly-moving (rather than differently-moving) black pieces involved (a Novotny itself being a Grimshaw brought about by a white sacrifice on the critical square). It can also be compared to the anti-Bristol, in which two similarly-moving black pieces interfere with each other along the same line.

Although the term *Plachutta* is confined to the world of chess problems, not being used in a wider chess context, the underlying Plachutta pattern does occasionally (though rarely) appear in an actual game.

Chess Puzzle

Knight Tour | Eight Queens

The longstanding popularity of chess has paved the way for a rich tradition of chess-related puzzles and composed problems. These puzzles assume a familiarity with the pieces and rules of chess, but set different objectives than a standard game. For example, one might be called upon to deduce the last move played, or the location of a missing piece, or whether some player has lost the right to castle. Sometimes the objective is antithetical to normal chess, such as helping (or even compelling) the opponent to checkmate one's own king.

The most common chess puzzle takes the form of checkmate in N moves. Such puzzles may derive from studies which were intended to help a student of the game learn how to seal a victory, but have since evolved into an entirely separate art. The puzzle positions are seldom similar to positions from actual play, and the challenge is not to find a winning move, but rather to find the (usually unique) move which forces checkmate as rapidly as possible.

Orthodox chess puzzles involve positions that can arise from actual game play (although the process of getting to that position may be unrealistic.) Heterodox chess puzzles involve conditions that are impossible with normal play such as multiple Kings, or chess variants, while fairy puzzles emply pieces not used in orthodox chess, such as the amazon (a piece combining the powers of the queen and the knight).

One of the many types of chess puzzles is to deduce the location of invisible pieces based on information about how many times certain squares are attacked. For example, in the position below, the challenge is to place a white king, queen, rook, knight, and bishop in the five highlighted squares so that the squares with numbers in them are attacked zero and four times respectively.

Chess puzzles can also be regular positions from a game (with normal rules), usually meant as training positions, tactical or positional, from all fases of the game (openings, middlegame of endings). They can range from a simple "Mate in one" combination to a complex attack on the opponents king.
Solving tactical chess puzzles is a very common chess teaching technique. Although it is unlikely that the same position will occur in a game the student plays, the recognition of certain patterns can help to find a good move or plan in another position.

See Also:

- Knight's Tour
- Eight queens puzzle

Knight's Tour

Puzzle Solving

The **Knight's Tour** is a mathematical problem involving a knight on a chessboard. The knight is placed on the empty board and, moving according to the rules of chess, must visit each square once.

There are several billion solutions to the problem, of which about 122,000,000 have the knight finishing on the same square on which it begins.

Many variations on this topic have been studied during the centuries:

- differently sized boards
- two-player games based on this idea
- problems using slight variations on the way the knight moves.

The knight's tour problem is an instance of the more general hamiltonian path problem in graph theory, which is NP-complete. The problem of getting a closed knight's tour is similarly an instance of the hamiltonian cycle problem. See How to solve the knight's tour for instructions on solving the knight's tour problem. Note however that, unlike the general hamiltonian path problem, the knight's tour problem can be solved in linear time (Conrad et al 1994).

The pattern made by a Knight's Tour has often been used as a literary constraint. The earliest instance of this is found in Rudrata's Kavyalankara written during the 9th century.

In the 20th century the Oulipo group of writers used it among many others. The most notable example is the 10x10 Knight Tour which sets the order of the chapters in Georges Perec's novel *La Vie mode d'emploi*.

Puzzle Solving

How to solve the knight's tour

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1 Introduction

1.1 Step 1
1.2 Step 2

2 A heuristic

Introduction

Historically, various methods have been used to solve the Knight's Tour problem. One frequently used method is to break up the 8x8 chessboard into smaller rectangles and solve the problem for the smaller rectangles in such a way that it is possible to combine the smaller paths into one grand path.

In the following we will see a method that is easy to learn and can be used to easily construct a knight's tour in less than 5 minutes. The tours so constructed will have the additional property that it is possible for the knight to step from the final square to the initial square, thus forming a closed path or a **cycle**.

Broadly, our strategy is to stay near the edges of the board as much as possible, so that towards the end, the squares that are remaining form a well-connected subgraph at the center of the board, enabling us to complete the last few moves by trial and error.

Step 1

- Start from one of the edge squares (but *not* one of the corner squares).
- Keep close to the edges of the board, and avoid the 16 central squares unless there is no alternative (e.g. move 13 of figure 1).
- If you are one move away from a corner square, you must necessarily move to the corner square (See figure 1).
- Follow these rules until all edge squares and all squares bordering an edge square have been visited. You should be in a position similar to figure 2.

	20	7			18	5	
8			19	6			17
21							4
	9					16	
	22					3	
10					13	26	15
23			12	25			2
	11	24			1	14	**27**

Figure 1. If you can move to a corner square, you *must* do so.

33	20	7	46	35	18	5	48
8	45	34	19	6	47	36	17
21	32					49	4
44	9				51	16	37
31	22				38	3	50
10	43				13	26	15
23	30	41	12	25	28	39	2
42	11	24	29	40	1	14	27

Figure 2. Step 1 completed.

Step 2

- 2a) Try to complete the tour by inspection. This is often not possible. If that is the case, read on.
- 2b) *Arbitrarily* extend the path to get a cycle (i.e. without visiting all the remaining squares). In figure 3, the path has been extended to a cycle of length 54.
- 2c) Find pairs of squares along the tour such that
  - they are one move away from each other.
  - each is one move away from some unvisited square.
- 2d) Use such pairs to complete the tour by inserting new squares between the pair of squares. In figure 3, this has been done using the pairs (5,6) and (8,9).
- 2e) Renumber the squares from 1 to 64 (see figure 4).

It might happen that there is no way to complete the tour in steps 2c and 2d. If that is the case, repeat step 2b until it is possible to get a complete tour.

33	20	7	46	35	18	5	48
8	45	34	19	6	47	36	17
21	32	8a	52	8e	5a	49	4
44	9	8d	5d	8b	51	16	37
31	22	53	8f	5b	38	3	50
10	43	5c	8c	54	13	26	15
23	30	41	12	25	28	39	2
42	11	24	29	40	1	14	27

Figure 3. The sequence 5->6 has been extended to 5->5a->5b->5c->5d->6 and 8->9 has been extended to 8->8a->8b->8c->8d->8e->8f->9 to complete the tour.

43	30	11	56	45	28	5	58
12	55	44	29	10	57	46	27
31	42	13	62	17	6	59	4
54	19	16	9	14	61	26	47
41	32	63	18	7	48	3	60
20	53	8	15	64	23	36	25
33	40	51	22	35	38	49	2
52	21	34	39	50	1	24	37

Figure 4. Completed and properly numbered tour.

A heuristic

One popular heuristic for solving the knight's tour problem is the **Warnsdorff rule**. According to this rule, at each step the knight must move to that square which has the lowest degree (the degree of a square is the number of squares to which the knight can move from that square). The rationale for this is that towards the end, we will be left with squares having a high degree, and so there is a smaller chance of arriving at a square from which there is no

move. The Warnsdorff rule is particularly suitable for writing computer programs to solve the knight's tour. Below is an example C program which uses this heuristic.

Example C program for solving the knight's tour using the Warnsdorff rule

```
#include <stdio.h>
#include <stdlib.h>

 /* The dimensions of the chess board */
#define BWID 8
#define BHEIT 8
/* The moves of the knight */
#define JWID 1
#define JHEIT 2

 /* Macros for convenience */
#define isinboard(board,x,y) ((x)>=0 && (y)>=0 && (x)<BWID && (y)<BHEIT)
#define isfree(board,x,y) (isinboard(board,x,y) && board[y * BWID + x] < 0)

 /* These arrays define the set of neighbors of a square */
static int incx[8] = {JWID, JWID, JHEIT, JHEIT, -JWID, -JWID, -JHEIT, -JHEIT};
static int incy[8] = {JHEIT, -JHEIT, JWID, -JWID, JHEIT, -JHEIT, JWID, -JWID};

 /* The number of neighbors of a square to which we can move */
int get_nbr_cnt(int *board, int x, int y)
{
   int i, cnt = 0;
   for (i=0; i<8; i++)
      if (isfree(board, x+incx[i], y+incy[i]))
         cnt++;
   return cnt;
}

 /* Make a move according to the smallest degree heuristic */
int make_move(int *board, int *x, int *y)
{
   int start, cnt, i, best = -1, nbrs, min_nbrs = 9, newx, newy;
   start = random() % 8;
   for (cnt=0; cnt<8; cnt++)
   {
      i = (start+cnt) % 8;
      newx = *x + incx[i];
      newy = *y + incy[i];
      if (isfree(board, newx, newy) &&
            (nbrs = get_nbr_cnt(board, newx, newy)) < min_nbrs)
```

```
      {
         best = i;
         min_nbrs = nbrs;
      }
   }
   if (min_nbrs == 9)
      return 0;
   newx = *x + incx[best];
   newy = *y + incy[best];
   board[newy * BWID + newx] = board[*y * BWID + *x] + 1;
   *x = newx;
   *y = newy;
   return 1;
}

 /* Print the solved position */
void print_board(int *board)
{
   int i, j;
   for(i=0; i<BWID; i++)
   {
      for(j=0; j<BHEIT; j++)
         printf ("%d\t", board[j * BWID + i]);
      printf ("\n");
   }
}

 /* Check if 2 squares are neighbors of each other */
int is_nbr (int x1, int y1, int x2, int y2)
{
   int i;
   for (i=0; i<8; i++)
      if (x1 + incx[i] == x2 && y1 + incy[i] == y2)
         return 1;
   return 0;
}

/* Generate a path with a random starting square and each square
 * chosen according to the smallest degree rule. If a hamiltonian
 * cycle results, print the solution and return 1. Else return 0.
 */
int gen_sol()
{
   /* board[y * BWID + x] represents the move number in which
```

```
      the square (x, y) was visited. It is -1 if the square has
      not been visited so far */
   int board[BWID*BHEIT];
   /* x and y represent the coordinates of the square being
      currently visited */
   int i, x, y, startx, starty;
   for(i=0; i<BWID*BHEIT; i++)
      board[i] = -1;
   startx = x = random() % BWID;
   starty = y = random() % BHEIT;
   board[y * BWID + x] = 1;
   for(i=0; i<BWID*BHEIT-1; i++)
      if (make_move(board, &x, &y) == 0)
         return 0;
   if (!is_nbr (x, y, startx, starty))
      return 0;
   print_board(board);
   return 1;
}

 /* Loop endlessly until a solution is found */
int main(void)
{
   while (!gen_sol())
      ;
   return 0;
}
```

Note that the above program is not restricted to 8x8 chessboards; the parameters BWID and BHEIT control the width and the height respectively.

One solution obtained using the above program is shown below.

35	44	15	46	37	42	13	48
16	53	36	43	14	47	38	41
63	34	45	54	59	40	49	12
52	17	62	57	50	55	60	39
33	64	51	18	61	58	11	26
6	3	32	29	56	25	20	23
1	30	5	8	19	22	27	10
4	7	2	31	28	9	24	21

Figure 5. Computer solution using the Warnsdorff heuristic.

Eight queens puzzle

The **eight queens puzzle** is the problem of putting eight chess queens on an 8x8 chessboard such that none of them is able to capture any other using the standard chess queen's moves. (Piece colour is ignored, and any piece is assumed to be able to attack any other.) That is to say, no two queens should share the same row, column, or diagonal.

This puzzle was used in the popular early 1990s computer game, The 7th Guest. However, it has a rich history pre-dating this game; the generalized problem of placing *n* "non-dominating" queens on an *n* by *n* chessboard was posed as early as 1850.

The eight queens problem has 92 distinct solutions, or 12 distinct solutions if symmetry operations such as rotations and reflections of the board are taken into consideration.

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1 The eight queens puzzle as an example problem for algorithm design

2 Example program in Python

3 See also

The eight queens puzzle as an example problem for algorithm design

The eight queens puzzle is a good example of a simple but non-trivial problem that can be solved by a recursive algorithm, by phrasing the *n*-queen problem inductively in terms of adding a single queen to any solution to the (*n*-1)-queen problem. The induction bottoms out with the solution to the 0-queen problem, which is an empty chessboard.

This technique is much more efficient than the naive brute-force search algorithm, which considers all $64^8 = 2^{48}$ possible blind placements of eight queens, and then filters these to remove all placements that place two queens either on the same square or in mutually attacking positions. This very poor algorithm will, amongst other things, produce the same results over and over again in all the different permutations of the assignments of the eight queens, as well as repeating the same computations over and over again for the different sub-sets of each solution. A slightly better brute-force algorithm places a single queen on each row, leading to only $8^8 = 2^{24}$ blind placements.

It is often used as an example problem for non-traditional approaches, such as constraint programming, logic programming or genetic algorithms.

Example program in Python

This uses the insights that

- no two pieces can share the same row;
- any solution for n queens on an n-by-m board must contain a solution for n-1 queens on an (n-1)-by-m board;
- proceeding in this way will always keep the queens in order, and generate each solution only once.

```
# Return a list of solutions to the n-queens problem on an
# n-by-width board.  A solved board is expressed as a list of
# column positions for queens, indexed by row.  Rows and columns are
# indexed from zero.
def n_queens(n, width):
  if n == 0:
    return [[]] # one solution, the empty list
  else:
    return add_queen(n-1, width, n_queens(n-1, width))

# Try all ways of adding a queen to a column of row new_row, returning
# a list of solutions.  previous_solutions must be a list of new_row-queens
# solutions.
def add_queen(new_row, width, previous_solutions):
```

```
    solutions = []
    for sol in previous_solutions:
        # Try to place a queen on each column on row new_row.
        for new_col in range(width):
            # print 'trying', new_col, 'on row', new_row
            if safe_queen(new_row, new_col, sol):
                # No interference, so add this solution to the list.
                solutions.append(sol + [new_col])
    return solutions

# Is it safe to add a queen to sol at (new_row, new_col)?  Return
# true iff so.  sol must be a solution to the new_row-queens problem.
def safe_queen(new_row, new_col, sol):
    # Check against each piece on each of the new_row existing rows.
    for row in range(new_row):
        if (sol[row] == new_col or
            sol[row] + row == new_col + new_row or
            sol[row] - row == new_col - new_row):
                return 0
    return 1

for sol in n_queens(8, 8):
    print sol
```

See also

- chess problem

Chess Computing

Deep Blue | Fritz | GNU Chess | XBoard/Winboard | Universal Chess Interface

Computer chess

Chess enthusiasts and computer engineers have attempted to build, with increasing degrees of seriousness and success, chess-playing machines since 1769. Motivations can essentially be consolidated into two: firstly, to build a machine to play chess with for solo entertainment, and secondly, to investigate chess as a problem which might provide some insight into human cognition. In this view, the history of computer chess is both a spectacular success and a virtually complete failure.

Chess-playing computers are available for negligible cost, and there are many programs (even the free GNU Chess, Amy, Pepito, Crafty, and more) that play a game that, with the aid of virtually any modern personal computer can defeat most master players under tournament conditions, while top commerical programs like Fritz have surpassed even world champion caliber players at blitz and short time controls.

However, to the surprise and disappointment of many, chess has taught us little about building machines that offer human-like intelligence, or indeed do anything except play excellent chess. For this reason, computer chess, (as with other games, like Scrabble) is no longer of great academic interest to researchers in artificial intelligence, and has largely been replaced by more intuitive games like igo as a testing paradigm. Chess-playing programs essentially explore huge numbers of potential future moves by both players and apply a relatively simple evaluation function to the positions that result where as a game like igo challenges programmers to consider conceptual approaches to play.

The brute-force methods are useless for most other problems artificial intelligence researchers have tackled, and are believed to be very different from how human chess players select their moves. In some strategy games, computers easily win every game, while in others they are regularly beaten even by amateurs.

Therefore, the fact that the best efforts of chess masters and computer engineers are as of 2003 so finely balanced should probably be viewed as an amusing quirk of fate rather than the profound comment on thought that many in the past, including some of the early theorists on machine intelligence, thought it to be.

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Brute force vs. strategy

In the early days of computer chess, there were two general schools of thought. The first camp took a "strategic AI" approach, estimating that examining all possible sequences of moves to any reasonable depth would be impractical due to the astronomical number of possibilities and nominal processing power. Instead of wasting processing power examining bad or trivial moves (and their extensions), they tried to make their programs discriminate between bad, trivial and good moves, recognize patterns or formulate and execute plans, much as humans do.

The second camp took a "brute force search" approach, examining as many positions as possible using the minimax algorithm with only the most basic evaluation function. A program might, for example, pay attention only to checkmate, which side has more pieces, and which side has more possible moves, without any attempt at more complicated positional judgement. In compensation, the program would be fast enough to look exhaustively at all positions to a certain depth within its allotted time.

Use of alpha-beta pruning combined with a number of search heuristics dramatically improved the performance of brute-force search algorithms. In modern times, the general consensus is that chess is theoretically a nearly-understood paradigm as an AI design goal and the Chinese game of go is now at the forefront of challenges to AI designers.

Ultimately, the brute force camp won out, in the sense that their programs simply played better chess. The game of chess is not conducive to inerrantly discriminating between *obviously* bad, trivial and good moves using a rigid set of rules. Traps are set and sprung by expert players who understand and master the many levels of depth and irony inherent to the game. Furthermore, technological advances by orders of magnitude in processing power have made the brute force approach far more incisive in recent years than was the case in the early years. The result is that a very solid, tactical AI player has been built which is

errorless to the limits of its search depth and time. This has left the strategic AI approach universally recognized as obsolete. It turned out to produce better results, at least in the field of chess, to let computers do what they do best (i.e., calculate) rather than coax them into imitating human thought processes and knowledge.

Brute force vs. humans

On the other hand, it remained an open question whether any amount of brute force computation would ever be adequate to defeat the expertise of top humans. In 1968, IM David Levy made a famous bet that no chess computer would be able to beat him within ten years. He won his bet in 1978 by beating Chess 4.7 (the strongest computer at the time), but acknowledged then that it would not be long before he would be surpassed. It is well that Levy didn't renew his bet for another ten years, because in 1989 he was crushed by the computer Deep Thought in an exhibition match, and would probably have lost even to earlier, lesser computers.

Deep Thought, however, was still considerably below World Championship Level, as the then reigning world champion Gary Kasparov demonstrated in two sterling wins in 1989. It wasn't until a 1996 match with IBM's Deep Blue that Kasparov lost his first game to a computer at tournament time controls in Deep Blue - Kasparov, 1996, Game 1. This game was, in fact, the first time a reigning world champion had lost to a computer using regular time controls. However, Kasparov regrouped to win three and draw two of the remaining five games of the match, for a convincing victory.

In May 1997, an updated version of Deep Blue defeated Kasparov 3.5-2.5 in a return match. While not an official world championship, the outcome of the match is often taken to mean that the strongest player in the world is a computer. Such a claim is open to strong debate, as a truly fair human-machine match is difficult to arrange.

Firstly, in one of the games, Kasparov was not defeated over the board. He resigned in a technically drawn position, perhaps distraught that Deep Blue was playing such human-like moves. He angrily accused the Deep Blue team of feeding human input to the computer as the game was in progress. Thus this defeat should be reckoned more as a psychological loss than an indication of inferior chess ability.

Secondly, there are other players whose playing style is recognised as more effective against computer opponents. Kasparov's strength lies in overwhelming opponents tactically and psychologically, both of which play to the strength of computers, whereas Vladimir Kraminik, who recently defeated Kasparov in a World Championship match, is more content to defend a tenable position, probe for weaknesses, and accumulate small advantages.

Thirdly, it was impossible for Kasparov to prepare to play the machine as he would against a human opponent, as the computer's programming was adjusted between prior matches and the Kasparov match. That incarnation of Deep Blue had no tournament record before

the match, whereas the Deep Blue team was able to study and prepare against hundreds of Kasparov's public games.

Finally, a six-game match was too short for Kasparov to adjust to any potential weaknesses of Deep Blue. One great advantage of humans over computers is adaptability. In all his previous encounters with computers Kasparov had finished more strongly than he began, and it is reasonable to suppose that he would have fared better in a twenty-four game match, the traditional length of World Championship matches.

IBM retired Deep Blue after the match and it has not played since. However, other "Man vs. Machine" matches continue to be played. In October 2002, Vladimir Kramnik and Deep Fritz competed in the eight-game Brains in Bahrain match, which ended in a draw. Kramnik won games 2 and 3 by "conventional" anti-computer tactics - play conservatively for a long-term advantage the computer is not able to see in its game tree search. Fritz, however, won game 5 after a severe blunder by Kramnik. Game 6 was described by the tournament commentators as "spectacular". Kramnik, in a better position in the early midgame, tried a spectacular piece sacrifice to achieve a strong tactical attack, a strategy known to be highly risky against computers who are at their strongest defending such attacks. True to form, Fritz found a watertight defence and Kramnik's attack petered out leaving him in a bad position. Kramnik resigned the game, believing the position lost. However, post-game human and computer analysis has shown that the Fritz program was unlikely to have been able to force a win and Kramnik effectively sacrificed a drawn position. The final two games were draws. Given the circumstances, most commentators still rate Kramnik the stronger player in the match.

In January 2003, Kasparov played Deep Junior, another chess computer program, in New York. The match ended 3-3.

Endgame Databases

Computers have been used to analyse some chess endgame positions completely. Such endgame databases are generated in advance using a form of retrograde analysis. Ken Thompson, perhaps better known as the key designer of the UNIX operating system, was a pioneer in this area. Over the years, other endgame database formats have being released including the Edward Tablebases, the De Koning Endgame Database (released in 2002) and the Nalimov Endgame Tablebases which is the current standard supported by most chess programs such as Fritz. All five-piece endings have now been analysed completely, and some of the six-piece endings are available. A computer using these databases will, upon reaching a position in them , be able to play perfectly, and immediately determine whether the position is a win, loss or draw. Knowledge of whether a position is a win,loss or draw is also helpful in advance since this can help the computer avoid or head towards such positions depending on the situation.

Endgame databases featured prominantly in 1999, when Kasparov played an exhibition match on the Internet against the Rest of the World. A seven piece Queen and pawn endgame

was reached with the World Team fighting to salvage a draw. Eugene Nalimov helped by generating the six piece ending tablebase where both sides had 2 Queens which was used heavily to aid analysis by both sides.

Computer chess implementation issues

Developers of chess-playing computer system must decide on a number of fundamental implementation issues. These include:

- board representation (how a single position is represented in data structures)
- search techniques (how to identify the possible moves and select the most promising ones for further examination)
- leaf evaluation (how to evaluate the value of a board position, if no further search will be done from that position)

Implementors also need to decide if they will use endgame databases or other optimizations, and often implement common *de facto* chess standards.

Board Representations

One of the simplest ways to represent a board is to create an 8x8 two-dimensional array (or, equivalently, a 64 element one-dimensional array). Each array element would identify what piece or pawn occupied the given square, or alternatively, if the square is empty. A common encoding is to consider 0 as empty, positive as white, and negative as black, e.g., white knight +1, black knight -1, white bishop +2, and so on.

One problem with this approach is that knight moves must be carefully examined to make sure they do not go "off the board". One solution is to use a 10x10 array instead, with the outer edges filled with nonsense blocking pieces; this means that knight moves do not have to implement special edge-checking code.

However, another technique has gained favor in many programs: the bitboard. The bitboard appears to have been originally developed by the KAISSA team in the Soviet Union in the late 1960s. A bitboard is a 64-bit sequence of bits (0 or 1), which indicates the absence or presence (false or true) of some state about each place on the board. A board position can then be represented using a series of bitboards. For example, a series of bitboards for each piece type or pawn, for each side, can represent the board position.

Additional information must be stored as well as piece and pawn location, such as move number, which side is to move, whether or not castling is possible (and on which side), en passant information, draw-related information, and so on.

Search Techniques

Computer chess programs consider chess moves as a game tree. In theory, they examine all moves, then all counter-moves to those moves, then all moves countering them, and so on, where each individual move by one player is called a "ply". This evaluation continues until it reaches a final "leaf" position which is evaluated.

A naive implementation of this approach, however, would play relatively poorly, so various methods have been devised to greatly speed the search for good moves.

Leaf evaluation

For most chess positions, computers cannot look ahead to all final possible positions. Instead, they must look ahead a few ply and then evaluate the final board position. The algorithm that evaluates final board positions is termed the "evaluation function", and these algorithms are often vastly different between different chess programs.

Nearly all evaluation functions evaluate positions in units of pawns, and at the least they consider material value. Thus, they will count up the amount of material on the board for each side (where a pawn is worth 1 pawn, a knight is worth 3 pawns, a bishop is worth 3 pawns or so, a rook 5 pawns, and a queen 9 or 10 pawns). Evaluation functions take many other factors into account, however, such as pawn structure, the fact that doubled bishops are usually worth more, centralized pieces are worth more, and so on. The protection of kings is usually considered, as well as the phase of the game (opening, middle, or end game).

Using endgame databases

It is still unclear how much chess-playing programs benefit from using the current set of endgame databases. This is because most modern chess programs can play a majority of such positions well enough using their normal search algorithms and heuristics without using endgame databases as a crutch. It is suspected that as more endgame databases [for example six and seven piece tablebases] are generated and used, this situation will change.

Nalimov Endgame Tablebases, which use state of the art compression techniques, require 7.05 GB of hard disk space for all five-piece endings. It is estimated that to cover all the six-piece endings will require at least 1 Terabyte. Seven-piece tablebases are currently a long way off.

While Nalimov Endgame Tablebases handle En passant positions, they assume that castling is not possible. This is a minor flaw that is probably of interest only to endgame specialists.

More importantly, they do not take into account the fifty move rule. Nalimov Endgame Tablebases only store the shortest possible mate (in ply) for each position. However in certain rare positions, the stronger side cannot force win before running into the fifty move rule. A chess program that searches the database and obtains a value of mate in 85 will not

be able to know in advance if such a position is actually a draw according to the fifty move rule, or if it is a win, because there will be a piece exchange or pawn move along the way. Various solutions including the addition of a "distance to zero" (DTZ) counter have been proposed to handle this problem, but none have been implemented yet.

Other optimizations

Many other optimizations can be used to make chess-playing programs stronger. For example, Transposition tables are used to record positions that have been previously evaluated, to save recalculation of them. Refutation tables record key moves that "refute" what appears to be a good move; these are typically tried first in variant positions (since a move that refutes one position is likely to refute another). Opening books aid computer programs by giving common openings that are considered good play (and/or good ways to counter poor openings).

Of course, faster hardware and additional processors can improve chess-playing program abilities, and some systems (such as Deep Blue) use specialized chess hardware instead of solely software implementations.

Standards

Computer chess programs usually support a number of common *de facto* standards. Nearly all of today's programs can read and write game moves as Portable Game Notation (PGN), and can read and write individual positions as Forsyth-Edwards Notation (FEN). Older chess programs often only understood long algebraic notation, but today users expect chess programs to understand standard algebraic chess notation.

Most computer chess programs are divided into an *engine* (which computes the best move given a current position) and a *user interface*. Most engines are separate programs from the user interface, and the two parts communicate to each other using a public communication protocol. The most popular protocol is the Xboard/Winboard Communication protocol. Another open alternate chess communication protocol is the Universal Chess Interface . By dividing chess programs into these two pieces, developers can write only the user interface, or only the engine, without needing to write both parts of the program.

Chronology of Computer Chess

- 1769 - Baron Wolfgang de Kempelen builds the Automaton Chess-Player, in what becomes one of the greatest hoaxes of its period.
- 1868 - Charles Hooper presented the Ajeeb automaton - which had a real chess player inside.

- 1890 - Leonardo Torres y Quevedo builds a machine that could play King and Rook versus King endgames.
- 1948 - Norbet Wiener's book *Cybernetics* describes how a chess program could be developed using a depth-limited minimax search with an evaluation function.
- 1950 - John von Neumann develops a chess program (on a bishopless 6x6 board) on the MANIAC I.
- 1951 - Alan Turing develops on paper the first program capable of playing a full game of chess.
- 1952 - Dietrich Prinz develops a program that solves chess problems.
- 1956 - Invention of alpha-beta search algorithm by John McCarthy
- 1958 - NSS becomes the first chess program to use alpha-beta searching.
- 1958 - First programs that could play a full game of chess were developed, one by Alex Bernstein and one by Russian programmers using a BESM.
- 1967 - First computer chess match between the Kotok-McCarthy program and th e ITEP program developed at Moscow's Institute of Theoretical and Experimental Physiscs.
- 1970 - First year of the ACM North American Computer Chess Championships
- 1974 - First World Computer Chess Championship
- 1977 - Establishment of the International Computer Chess Association.
- 1980 - Chess 4.6 developed at Northwesten University running on a Control Data computer becomes the first chess computer to be a successfull at a major chess tournament.
- 1980 - Establishment of the Fredkin Prize.
- 1982 - Ken Thompson's hardware chess player Belle earns a US master title.
- 1987 - HITECH developed by Hans Berliner and Carl Ebeling wins a match against grandmaster Arnold Denker 3.5 - 0.5.
- 1988 - Deep Thought shares first place with Tony Miles in the Software Toolworks Championship, ahead of a former world champion Mikhail Tal and several grand masters including Samuel Reshevsky, Walter Browne, Gruenfeld and Gurevich. It also defeats Grandmaster Bent Larsen, making it the first

computer to beat a GM in a tournament. Its rating for performance in this tournament of 2745 (USCF scale) was the highest obtained by a computer player.

- 1989 - Deep Thought loses two exhibition matches to Gary Kasparov the reigning world champion.
- 1997 - Deep Blue wins against Gary Kasparov

Other chess software

There are several other forms of chess-related computer software, including the following:

- **Chess game viewers** allow players to view a pre-recorded game on a computer. Most chess-playing programs can be also used for this purpose, but some special-purpose software exists.
- **Chess instruction software** is designed to teach chess.
- **Chess databases** are systems which allow the searching of a large library of historical games.

Computer Chess theorists

Well-known computer chess theorists include:

- D.F. Beal
- David Levy

The future of computer chess?

Many observers extrapolate that computers will consistently beat the best human players by perhaps 2010, and then go on to exceed their abilities to the point where a human vs. computer chess match would be as unfair as a human vs. automobile race. Others are unconvinced, saying that there are still deep strategic elements to chess that will resist brute-force computer searching.

Deep Blue - Kasparov, 1996, Game 1 (chess)

Deep Blue - Kasparov, 1996, Game 1 is a world-famous chess game. This is the first game won by a chess-playing computer against a reigning world champion under normal chess tournament conditions (in particular, normal time controls).

Deep Blue was a computer developed by IBM to win against Gary Kasparov. Deep Blue won this game, but Kasparov rebounded over the following 5 games to win 3 and draw 2, soundly

beating Deep Blue in the 1996 match. In the 1997 rematch, Deep Blue managed to win the entire match.

Gary Kasparov is widely considered to be one of the greatest chess players.

Game Moves

The game is described below using Portable Game Notation.

[Event ""]
[Site "Philadelphia, PA USA"]
[Date "1996.02.10"]
[Round "1"]
[White "Deep Blue"]
[Black "Kasparov, Gary"]
[Result "1-0"]
[Opening "Sicilian Defense 2.c3"]
[Annotator "Wheeler, David A."]

1. e4 c5
2. c3
{It's more common to play 2. Nf3, but Kasparov has deep experience with
that line, so white's opening book goes in a different direction.}

2..... d5
3. exd5 Qxd5
4. d4 Nf6
5. Nf3 Bg4
6. Be2 e6
7. h3 Bh5
8. O-O Nc6
9. Be3 cxd4
10. cxd4 Bb4
{A more common move here is Be7. This was a new approach by Kasparov,
developing the bishop in an unusual way. Whether or not it's a good
approach is debated. After this move, the computer left its opening book
and began calculating its next move.}

11. a3 Ba5
12. Nc3 Qd6
13. Nb5 Qe7?!
{This allows white to make its pieces more active.
Other moves, which would probably be better, include Qb8 and Qd5.}

14. Ne5! Bxe2
15. Qxe2 O-O
16. Rac1 Rac8
17. Bg5
{Black now has a problem, especially with the pinned knight on f6.}

17.... Bb6
18. Bxf6 gxf6
{Kasparov avoids ... Qxf6? because white would gain material with 19. Nd7.
Note that Kasparov's king is now far more exposed.}

19. Nc4! Rfd8
20. Nxb6! axb6
21. Rfd1 f5
22. Qe3!
{This is an excellent place for the white queen.}

22... Qf6
23. d5!
{Kasparov commented that he might have offered this pawn
sacrifice himself in this position, since it hurt black's pawn
structure, opened up the board, and black's exposed king suggested
that there was probably a way to exploit the result.
Kasparov has been attacking the d4 pawn, and the computer wisely
decided to advance it for an attack instead of trying to defend it.}

23... Rxd5
24. Rxd5 exd5
25. b3! Kh8?
{Kasparov attempts to prepare a counter-attack, by preparing to
move his rook to file g, but it won't work.
Burgess suggests that 25.... Ne7 Rxc8+ would have better, though
white would still have some advantage.
Indeed, after this point on it's difficult to identify
any move that will dramatically help black.}

26. Qxb6 Rg8
27. Qc5 d4
28. Nd6 f4
29. Nxb7
{This is a very "computerish"/materialistic move; white is grabbing
an undeveloped pawn for a small gain in material.
However, the computer has not identified any threat of checkmate from
black, so it simply acquires the material.}

29.... Ne5
30. Qd5
{The move 30. Qxd4?? would be terrible, because Nf3+
would win the white queen.}

30.... f3
31. g3 Nd3
{The move 31... Qf4 won't work, because of 32. Rc8! Qg5 33. Rc5!}

32. Rc7 Re8
{Kasparov is attacking, but the computer has correctly determined that
the attack is not a real threat.}

33. Nd6 Re1+
34. Kh2 Nxf2
35. Nxf7+ Kg7
36. Ng5 Kh6
37. Rxh7+
{expecting .... Kg6 38. Qg8+ Kf5 Nxf3 and white's strength is overwhelming.
White will have lots of ways to defeat black, but black has no real
way to attack white.}
1-0

References

- Burgess, Graham, John Nunn, and John Emms. The Mammoth Book of the World's Greatest Chess Games. 1998. New York: Carroll and Graf Publishers, Inc. ISBN 0-7867-0587-6.
- Eade, James. Chess for Dummies. 1996. Foster City, CA: IDG Books Worldwide, Inc. ISBN 0-7645-5003-9.
- Wheeler, David A. Deep Blue - Kasparov, 1996, Game 1.

Fritz

Deep Fritz

Fritz is a German chess program developed by Morsch and Feist. The latest version, of the consumer product, is Fritz 8. In 2002, a version of Fritz specifically designed for multi-processing, Deep Fritz, drew the Brains in Bahrain match against Vladimir Kramnik 4 - 4. In November 2003, X3D Fritz, a version of the program with a 3D interface, drew a four-game match against Garry Kasparov.

See also: ChessBase

Deep Fritz

Deep Fritz is a multi-processor version of the computer chess engine Fritz written by Frans Morsch and Mathias Feist.

In October 2002, a version of Deep Fritz running on a Compaq 8-processor machine and Vladimir Kramnik competed in the Brains in Bahrain eight-game match, which ended in a 4 - 4 draw, with two wins for each participant and four draws.

As of October 2002, Deep Fritz is believed to be the most powerful computer chess program in the world, defeating Deep Junior, another powerful computer chess program, in a run-off. Whilst it lacks the special-purpose hardware of Deep Blue and consequently can evaluate far fewer positions in a given amount of time, the designers and Vladimir Kramnik, in pre-match interviews, both regarded it as a stronger player. Kramnik, for instance, tried the machine by setting up the positions in the Garry Kasparov-Deep Blue match of 1997, and found that Fritz came up with what he regarded as stronger moves. A direct comparison is impossible as after Deep Blue defeated Kasparov it was dissasembled.

See also: Deep Blue

GNU Chess

GNU Chess is a computer program for playing chess, and is thus a computer chess program.

It is free software (in both the no-cost and as-in-freedom senses) licensed under the terms of the General Public License, and is maintained by collaborating developers. It is often used in conjunction with a GUI program such as XBoard.

In 1998-1999 GNU Chess underwent a transition to version 5. Version 5 was essentially a complete rewrite from scratch of GNU Chess to eliminate spaghetti code and replace antiquated data structures with more advanced computer chess implementation techniques. These included bitboards, a search algorithm called Principal Variation Search (PVS) (a variation by Professor Tony Marsland of alpha-beta minimax), and full end-leaf evaluation. It uses a number of other techniques to improve its performance, such as an opening book (generated by studying master games) to help it start well and hash tables storing previously-analyzed positions to prevent wasting time re-analyzing already analyzed positions.

XBoard

XBoard is a free graphical user interface for the X Window System for chess programs such as GNU Chess and for Internet Chess Servers. It also supports e-mail chess and playing saved games.

A port of XBoard to Microsoft Windows exists, called **WinBoard**.

Xboard/Winboard is also a popular GUI used by many free (most in the no-cost and a few-in-the-freedom sense) chess programs and a handful of commerical programs. As of 2003 there are in total at least 200 such chess programs.

Many other chess software both free and commercial support this communication protocol. Examples include Chessmaster, Chess Assistant, Chess Partner, Shane's chess information database, Eboard, Knights and Arena.

Another alternate chess communication protocol is the Universal Chess Interface .

Universal Chess Interface

The **Universal Chess Interface** (UCI) is a open free, Chess communication protocol used to enable the engine portion of a chess program to communicate with a graphical user interface.

It was designed and released by Rudolf Huber and Stefan Meyer-Kahlen in Nov 2000 , and can be seen as a rival to the older and more established Xboard/Winboard Communication protocol. Like the later, it is free to use without license fees.

Only a few interfaces and engines supported this protocol, until Chessbase - the powerhouse chess software company which markets Fritz, began to support UCI in 2002. As of 2003, there are about 50 engines which support UCI and interfaces like Fritz, Chess Assistant, Chess Partner, Knights and Arena.

Documentation

Columns in Newspapers | Libraries | Collections | Opening Manuals | ChessBase

Chess columns in newspapers

The earliest known **chess column** appeared in the *Lancet* in 1823, but due to lack of popularity disappeared after less than a year.

The first column to establish itself was that of George Walker in *Bells Life* in 1834 which survived until 1873. From February 15, 1845 onwards it faced competition from Howard Staunton's column in the *Illustrated London News*, a column which outsurvived Walker's, but only by 5 years. During this time a chess column also appeared in the *Pictorial Times* lasting from February 1845 to June 1848.

In 1882 H. E. Bird in his *Chess History and Reminiscences* estimated that there were 150 chess columns. Less than thirty years later in 1913 Harold Murray in his *History of Chess* estimated there existed at least 1,000 chess columns worldwide.

Chess libraries

Due to mergers and acqusitions in recent years there are only two chess libraries of major signicance and only a few other specialist collections. They are,

- The John G. White Chess and Checkers Collection at Cleveland Public Library.
    - Largest chess and draughts library in the world.
    - Built on the donation of quarter of a million dollars and 11,000 books from John G. White's private library upon his death.
- The Chess & Draughts collection at the Bibliotheca Van der Linde-Niemeijeriana (part of the Koninklijke Bibliotheek, the National Library of the Netherlands).
    - Second largest chess and draughts library in the world.
    - Built on the donations of from the private chess libraries of Antonius van der Linde, Meindert Niemeijer and G.L. Gortmans.
    - Contain 40,000 works.
- Chess collection at the Templeman Library, University of Kent at Canterbury.
    - Built on donation of archive material of the British Chess Federation.

- Contains a number of unique items relating to British chess clubs.

The most significant publicly acknowledged private chess library is currently that of Paolo Ciancarini. However, Mr. Ciancarini states that several people own larger libraries, including Lothar Schmidt in Germany and Mr. DeLucia in New York. Also, the former World Champion Anatoly Karpov is told to own a large chess library. Mr. Ciancarini's is the only one which has a catalog publicly available on the Web, and periodically updated.

Chess game collection

The most common types of **chess game collections** are either the collected games of one player (e.g. *My Best Games of Chess 1908-1937* by Alexander Alekhine) or collections of chess games over a certain time period. An example of the latter would be the *Chess Informant* series, which collects the best chess games for a period and publishes them in a language independent format.

Opening manual

Opening manuals, which discuss chess openings, are by far the most common type of literature on Chess play.

There are several types of opening manuals:

1. **Manuals dealing with one specific opening** - Often these manuals have highly optimistic titles, like *Black to Play and Win with 1...g6* (Andy Soltis), but some are more modest: *starting out: the king's indian* (Joe Gallagher). In general, these books are the most accessible to the general reader, and cover the most material for individual opening systems.

2. **Manuals giving a system or repertoire** - These manuals discuss two or more opening systems, often related by similar tactical themes, pawn structures, or strategic aims. The aim is generally to get the player to the middle game with a playable position without too much trouble, no matter what the opposing player does.

3. **Manuals giving general opening advice and guidance** - Possibly the most famous example of this type of manual (in English) is Reuben Fine's *The Ideas Behind the Chess Openings*. This type of book doesn't analyze any opening system to much depth, but teaches the ideas that will help you understand opening play.

4. **Encyclopedic manuals that aim to be comprehensive** - These manuals, from the five volume *Encyclopedia of Chess Openings* to the single volume works like *Nunn's Chess Openings*, aim to cover as many opening systems as possible at the expense of understanding the ideas behind the opening. Usually, at the end of a sequence of moves, the reader is told that one side stands slightly better than the

other. However no information is given on what that assessment is based on or how to proceed in the game.

Chess opening literature:

- How to Play the Opening in Chess. 1993. Raymond Keene and David Levy. ISBN 0-8050-2937-0.
- The Encyclopedia of Chess Openings - This is a very technical advanced work in 5 volumes published by Chess Informant of Belgrade. It analyzes openings used in tournament play and archived in *Chess Informant* since 1966. Instead of the traditional names for the openings, it has developed a unique coding system that has also been used by other chess publications.
- Batsford Chess Openings 2. 1989, 1994. Garry Kasparov and Raymond Keene. New York, New York: Henry Holt and Company. ISBN 0-8050-3409-9.
- Nunn's Chess Openings. 1999. John Nunn (Editor), Graham Burgess, John Emms, Joe Gallagher. ISBN 1-8574-4221-0.
- Modern Chess Openings: MCO-14. 1999. Nick De Firmian, Walter Korn. ISBN 0-8129-3084-3.

ChessBase

ChessBase is the dominant commercial database program for storing and searching records of games of chess.

In addition to permitting searches for games or positions in games based on player names, openings, or features of the position, it includes chess analysis tools based on the computer chess programs Fritz and Crafty. For many serious chess players, ChessBase and similar programs complement and sometimes substitute for printed opening manuals and chess game collections.

ChessBase uses a proprietry format for storing games, but can also handle games in portable game notation.

There are a number of other commercial chess database programs, among them Chess Assistant. There are also a several free alternatives, including SCID, which is released under the GNU GPL.

ChessBase is also the name of the company that markets the *ChessBase* program and other software related to chess.

Chess Variants

Fisher Random Chess | Fantasy Chess | Fairy Chess Piece

A **chess variant** is any game derived from or related to chess. In practice, a specific chess variant may be similar to chess or radically different. The broad definition of chess variants is so universal, it may include nearly any abstract battle or war game played upon a board.

To experts of chess variants, chess, shogi, xiangqi and other chess-related games of great popularity are merely special cases in a theoretically unlimited universe of possible arrangements involving boards, pieces, rules, and so on. To date, several hundred chess variants have been catalogued. With the recent invention in 1998 of a computer program which enables non-experts to quickly design and playtest chess variants using an AI opponent, the total number has been increasing constantly and rapidly. This growth is likely to continue for years.

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1 Handicap variants

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3 Chess-related national games

Handicap variants

- Games played with material disadvantage
- Simultaneous chess
- Blindfold chess

Fantasy variants

Fantasy variants make significant changes to normal chess rules. Other terms for fantasy chess variants include *heterodox chess* and *fairy chess*. Some of these variants use pieces not found in orthodox chess, such as Berolina pawns (pawns which move diagonally and capture straight forward); such pieces are collectively called *fairy pieces*.

- **Advanced Chess:** the players are allowed to consult a computer. See also Computer Chess
- **Alice Chess:** played with two boards. A piece moved on one board passes "through the looking glass" onto the other board.

- **Atomic Chess:** any capture on a square results in an "atomic explosion" which kills (*i.e.* removes from the game) all pieces in any of the 8 surrounding squares, except for pawns.
- **Avalanche Chess:** each player moves an opponent's pawn after their move.
- **Baroque Chess:** (a.k.a. Ultima) the pieces all move like queens but have various capturing methods.
- **Bughouse Chess:** (a.k.a. Tandem Chess, Siamese Chess) two teams of two players face each other on two boards.
- **Capablanca Chess:** a 10x8 board.
- **Circe Chess:** captured pieces are reborn on their starting sqaures.
- **Double and Triple Move Chess:** each player moves twice or thrice per turn.
- **Fischer Random Chess:** the placement of the pieces on the 1st and 8th rank is randomized to enhance the adaptability of chess players.
- **Grid Chess:** the board is overlaid with a grid of lines; for a move to be legal, it must cross at least one of these lines.
- **Kriegspiel:** each player does not know where the opponent's pieces are but can deduce them with information from a referee.
- **Madrasi chess:** a piece which is attacked by the same type of piece of the opposite colour is paralysed.
- **Martian Chess:** played with Icehouse pieces
- **Omega Chess:** a 10x10 board with an extra square dangling off each of the four corners and two new types of chess piece.
- **Patrol chess:** captures and checks are only possible if the capturing or checking piece is guarded by a friendly piece.
- **Progressive Chess:** the first player moves once, the second moves twice, the first moves three times, etc.
- **Suicide Chess:** (a.k.a. Giveaway Chess, Take Me Chess, Losers Chess, Anti-Chess) capturing moves are mandatory and the object is to lose all pieces.
- **Three-Dimensional Chess:** several variants exist, with the most popular being a version from the television series Star Trek.

Chess-related national games

These games have developed independently from chess by unrelated origins. Nonetheless, they are definable as chess variants. The popularity of these chess variants is often limited to their respective places of origin.

Fischer Random Chess

Fischer Random Chess (also called *Chess 960*, *Fischerandom chess*, *FR chess*, or *FullChess*) is a chess variant created by Grandmaster Bobby Fischer (who was world chess champion from 1972 until 1975). It was originally announced on June 19, 1996, in Buenos Aires, Argentina. Fischer's goal was to create a chess variant in which chess creativity and talent would be more important than memorization and analysis of opening moves. His approach was to create a randomized initial chess position, which would thus make memorizing chess opening move sequences far less helpful.

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- 6.1 Coin-Tossing Method
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Starting Position

The starting position for Fischer random chess must meet the following rules:

- White pawns are placed on their orthodox home squares.
- All remaining white pieces are placed on the first rank.
- The white king is placed somewhere between the two white rooks.
- The white bishops are placed on opposite-colored squares.
- The black pieces are placed equal-and-opposite to the white pieces. For example, if white's king is placed on b1, then black's king is placed on b8.

Note that the king never starts on file a or h, because there has to be room for a rook.

There are many procedures for creating this starting position. Hans L. Bodlaender has proposed the following procedure using one six-sided die to create an initial position; typically this is done just before the game commences:

- Roll the die, and place a white bishop on the black square indicated by the die, counting from the left. Thus 1 indicates the first black square from the left (a1 in algebraic notation), 2 indicates the second black square from the left (c1), 3 indicates the third (e1), and 4 indicates the fourth (g1). Since there are no fifth or sixth positions, re-roll 5 or 6 until another number shows.
- Roll the die, and place a white bishop on the white square indicated (1 indicates b1, 2 indicates d1, and so on). Re-roll 5 or 6.
- Roll the die, and place a queen on the first empty position indicated (always skipping filled positions). Thus, a 1 places the queen on the first (leftmost) empty position, while a 6 places the queen on the sixth (rightmost) empty position.
- Roll the die, and place a knight on the empty position indicated. Re-roll a 6.
- Roll the die, and place a knight on the empty position indicated. Re-roll a 5 or 6.
- Place a white rook on the 1st empty square of the first rank, the white king on the 2nd empty square of the first rank, and the remaining white rook on the 3rd empty square of the first rank.
- Place all white and black pawns on their usual squares, and place Black's pieces to exactly mirror White's (so Black should have on a8 exactly the same type of piece that White has on a1).

This procedure generates any of the 960 possible initial positions of Fischer Random Chess with an equal chance; on average, this particular procedure uses 6.7 die rolls - an optimal procedure would use on average somewhere between 4 and 4.45 die rolls. Note that one of

these initial positions is the standard chess position, at which point a standard chess game begins.

It's also possible use this procedure to see why there are exactly 960 possible initial positions. Each bishop can take one of 4 positions, the Queen one of 6, and the two knights can have 5 or 4 possible positions, respectively. This means that there are 4*4*6*5*4 = 1920 possible positions if the two knights were different in some way. However, the two knights are indistinguishable during play; if they were swapped, there would be no difference. This means that the number of distinguishable positions is half of 1920, or 1920/2 = 960 possible distinguishable positions.

If one has dice shaped like the platonic solids, one never needs to reroll any dice.

- Roll the dice.
- Place a white bishop on the square indicated by the octahedron.
- Place the other white bishop on the square of opposite colour indicated by the tetrahedron.
- Place the white queen on the square indicated by the hexahedron.
- Take the number of the icosahedron. Multiply by 2, then add 8. For example, 19 -> 46. Divide the second digit by 2 and add 1. For example, 46 -> 44. Place a white knight on the square indicated by the second digit, then place the other white knight on the square indicated by the first digit.
- Ignore the dodecahedron and place the white rooks and the white king between the rooks.
- Place the white pawns and mirror the position for black.

Castling

Rules for Castling

Once the starting position is set up, the rules for play are the same as standard chess. In particular, pieces and pawns have their normal moves, and each player's objective is to checkmate their opponent's king.

Fischer random chess allows each player to castle once per game, a move by potentially both the king and rook in a single move. However, a few interpretations of standard chess games rules are needed for castling, because the standard rules presume initial locations of the rook and king that are often untrue in Fischer Random Chess games.

After castling, the rook and king's final positions are exactly the same positions as they would be in standard chess. Thus, after a-side castling (notated as O-O-O and known as *queen-side castling* in orthodox chess), the King is on c (c1 for White and c8 for Black) and the Rook is on d (d1 for White and d8 for Black). After h-side castling (notated as O-O and known as *king-side castling* in orthodox chess), the King is on g and the Rook is on f. It is recommended that a player state "I am about to castle" before castling, to eliminate potential misunderstanding.

However, castling may only occur under the following conditions, which are extensions of the standard rules for castling:

1. **Unmoved:** The king and the castling rook must not have moved before in the game, including castling.

2. **Unattacked:** All of the squares between the king's initial and final squares (including the initial and final squares) must not be under attack by any opposing piece.

3. **Vacant:** All the squares between the king's initial and final squares (including the final square), and all of the squares between the rook's initial and final squares (including the final square), must be vacant except for the king and castling rook.

These rules have the following consequences:

- If the initial position happens to be the standard chess initial position, these castling rules have exactly the same effect as the standard chess castling rules.

- All the squares between the king and castling rook must be vacant.

- Castling cannot capture any pieces.

- The king and castling rook cannot "jump" over any pieces other than each other.

- A player may castle at most once in a game.

- If a player moves his king or both of his initial rooks without castling, he may not castle during the rest of the game.

- In some starting positions, some squares can stay filled during castling that would have to be vacant in standard chess. For example, after a-side castling (O-O-O), it's possible for to have a, b, and/or e still filled, and after h-side castling (O-O), it's possible to have e and/or h filled.

- In some starting positions, the king or rook (but not both) do not move during castling.

- The king may not be in check before or after castling.

- The king cannot move through check.

How to Castle

When castling on a physical board with a human player, it is recommended that the king be moved outside the playing surface next to his final final position, the rook then be moved from its starting to ending position, and then the king be placed on his final square. This is always unambiguous, and is a simple rule to follow.

Eric van Reem suggests that there are other acceptable ways to castle:

- If only the rook needs to move (jumping over the king), you can simply move only the rook.
- If only the king needs to move (jumping over the castling rook), you can simply move the king.
- You can pick up both the king and rook (in either order), then place them on their final squares (this is called "transposition" castling).
- You can move the king to its final square and move the rook to its final square as two separate moves, in either order (this is called "double-move" castling). Obviously, if the rook is on the square the king will occupy you'll need to move the rook first, and if the king is on the square the rook will occupy you'll need to move the king first.

In contrast, Reinhard Scharnagl strongly recommends that, since castling is fundamentally a king's move, the king should always move first.

Generally, when playing with human player on a physical board, it's wise to announce "I'm going to castle" before castling. If you're playing a timed game, once you're done castling press the appropriate button on your chess clock to show your move has completed.

When castling using a computer interface, programs should have separate a-side (0-0-0) and h-side (0-0) castling actions (e.g., as a button or menu item). Ideally, programs should also be able to detect a king or rook move that cannot be anything other than a castling move and consider that a castling move.

When using an electronic board, to castle you should remove the king, remove the castling rook, place the castling rook on its new position, and then place the king on its new position. This will creates an unambiguous move for electronic boards, which often only have sensors that can detect the presence or absence of an object on each square (and cannot tell what object is on the square). Ideally, electronic boards should detect a king or rook move that can only be a castling move as well, but users should not count on this.

Castling Rule Ambiguities

Many published castling rules are unfortunately ambiguous. For example, the rules first published by Eric van Reem and chessvariants.com, as literally stated, did not specifically state that there must be vacant squares between the king and his destination except for the participating rook. As a result, those rules appeared to some to allow the king to "leap" over other pieces.

In 2003 David A. Wheeler contacted many active in Fischer Random Chess to determine the exact castling rules, including Eric van Reem, Hans-Walter Schmitt, and R. Scharnagl. All agreed that there must be vacant squares between the king and his destination except for the participating rook, clarifying the castling rules.

Playing Fischer Random Chess

Examining openings for Fischer Random Chess is in its infancy, but opening fundamentals still apply. These include: protect the King, control the center squares (directly or indirectly), and develop your pieces rapidly starting with the less valuable pieces. Some starting positions have unprotected pawns that may need to be dealt with quickly.

Some have argued that two games should be played with each initial position, with players alternating as white and black, since some initial positions may turn out to give white a much bigger advantage than standard chess. However, there is no evidence that any position gives either side a significant advantage.

Recording Games

Since the initial position is usually not the orthodox chess initial position, recorded games must also record the initial position. Games recorded using the Portable Game Notation (PGN) can record the initial position using Forsyth-Edwards Notation (FEN), as the value of the "FEN" tag. Castling is marked as O-O or O-O-O, just as in standard chess. Note that not all chess programs can handle castling correctly in Fischer Random Chess games (except if the initial position is the standard chess initial position). To correctly record a Fischer Random Chess game in PGN, an additional "Variant" tag must be used to identify the rules; the rule named "Fischerandom" is accepted by many chess programs as identifying Fischer Random Chess. Be careful to use "Variant" and not "Variation", which has a different meaning. This means that in a PGN-recorded game, one of the PGN tags (after the initial 7 tags) would look like this:

```
[Variant "Fischerandom"]
```

FEN is capable of expressing all possible *starting* positions of Fischer Random Chess. However, unmodified FEN cannot express all possible positions of a Fischer Random Chess game. In a game, a rook may move into the back row on the same side of the king as the other rook, or pawn(s) may be underpromoted into rook(s) and moved into the back row. If a rook

is unmoved and can still castle, yet there is more than one rook on that side, FEN notation as traditionally interpreted is ambiguous. This is because FEN records that castling is possible on that side, but not *which* rook is still allowed to castle.

A modification of FEN, FRC-FEN, has been devised by R. Scharnagl to remove this ambiguity. In FRC-FEN, the castling markings "KQkq" have their expected meanings: "Q" and "q" means a-side castling is still legal (for white and black respectively), and "K" and "k" means h-side castling is still legal (for white and black respectively). However, if there is more than one rook on the baseline on the same side of the king, and the rook that can castle is not the outermost rook on that side, then the column letter of the rook that can castle is appended right after the related "K", "k", "Q", or "q". In other words, in FRC-FEN notation, castling potentials belong to the outermost rooks by default. This means that the maximum length of the castling value is 8 characters instead of 4 (KkQq plus 4 disambiguation characters), though positions needing that many characters are extremely improbable. Note that FRC-FEN is upwardly compatible, that is, a program supporting FRC-FEN will automatically use the normal FEN codes for a traditional chess starting position without requiring any special programming.

Starting Position Ids

Some people have wanted each possible starting position to have a unique standard numeric identifier (id). R. Scharnagl recommends the following method for defining each position id, where each position has a different id ranging from 0 to 959.

To create a starting position given an id:

- Divide the id by 4, producing a truncated integer and a remainder. The remainder locates the light-square Bishop: 0 means file b, 1 means file d, 2 means file f, and 3 means file h.
- Take the previous truncated integer and divide by 4, producing another integer and a remainder. This remainder locates the dark-square Bishop: 0 means file a, 1 means file c, 2 means file e, and 3 means file g.
- Take the previous truncated integer and divide by 6, producing another integer and a remainder. This remainder locates the queen, and identifies the number of the vacant square it occupies (counting from the left, where 0 is the leftmost square and 5 is the rightmost square).
- The previous truncated integer now has a value from 0 to 9 inclusive. Its value, called the KRN code (pronounced "kern"), indicates the positions of the king, rooks, and knights among the remaining 5 squares.

The KRN code values are as follows, showing the order from white's perspective from left to right (where K is king, R is rook, and N is knight):

KRN code	Position
0	N N R K R
1	N R N K R
2	N R K N R
3	N R K R N
4	R N N K R
5	R N K N R
6	R N K R N
7	R K N N R
8	R K N R N
9	R K R N N

Conversely, given a board position, its id can be computed as follows:

id = (light square Bishop location, where file b is 0) +
4 * (dark square Bishop location, file a is 0) +
16 * (Queen location, counting leftmost as 0 and skipping Bishops) +
96 * (KRN code)

The standard chess position is position id 518. This can be shown by computing it:

id = (2 because the light square Bishop is on file f) +
4 * (1 because the dark square Bishop is on file c) +
16 * (2 because the Queen is on file d, skipping bishop on c) +
96 * (5, the KRN code) = 518

Computer software can use this algorithm to quickly create any of the standard positions, by simply selecting a random number from 0 to 959 and using that as the position id. Note that some random number generators are poor (e.g., they are predictable and/or do not have an equal distribution of possible values), so implementors should make sure they use a good random number generator.

Other Ways to Create Initial Positions

There are several other methods that can create initial positions.

Coin-Tossing Method

Edward Northam has developed the following approach for creating initial positions using only two distinguishable coins.

First, two coins (small and large) are used to randomly generate numbers with equal probability. He suggests doing this by declaring that tails on the smaller coin counts as 0, tails on the larger coin counts as 1, and heads on either coin counts as 2. To create numbers in the range 1 through 4, toss both coins and add their values together. To create numbers in the range 1 through 3, do the same but retoss whenever 4 is the result. To create numbers in the range 1 through 2, just toss the larger coin (tails is 1, heads is 2).

Any other technique that randomly generates numbers from 1 to 4 (or at least 1-2) will work as well, such as as the selection of a closed hand that may hold a white or black Pawn.

As with a die, the coin tosses can build a starting position one piece at a time. Before each toss there will be at most 4 vacant squares available to the piece at hand, and they can be numbered counting from the a-side (as with the die procedure described above). Place the white pieces on white's back rank as follows:

1. Place a Bishop on one of the 4 light squares.
2. Place a bishop on one of the 4 dark squares.
3. Place the King. There 6 vacant squares, but only the middle 4 are available to the King, since there must be room for a Rook on each side of the King.
4. Place a Rook on the a-side of the King.
5. Place a Rook on the h-side of the King.
6. Place the Queen on one of the 3 vacant squares that remain.
7. Place Knights on the two squares that are left.

Drawing Methods

David J. Coffin suggests the following procedure, which has the advantage of not requiring computers, dice, or lookup tables:

1. Place the eight white pieces in a bag. Draw them one by one and place them on squares a1, b1, ... h1.
2. If the bishops are on the same color, look at the following pairs: a1-b1, c1-d1, and e1-f1. Swap the leftmost pair that contains a bishop.

3. If the king is not between his rooks, swap the king with the closer rook.

However, while all positions can be generated this way, not all positions have the same probability to be generated. Mathematical analysis shows that positions with the bishops on a pair a1-b1, c1-d1, e1-f1, or g1-h1 actually have half the probability to be generated than the other positions.

Many other algorithms for creating initial positions have been created, but in many cases they have the same problem: not all positions will be selected with equal likelihood.

Non-Random Setups

The initial setup need not necessarily be random. The players or a tournament setting may decide on a specific position in advance, for example.

Edward Northam suggests the following approach for allowing players to jointly create a position without randomizing tools. First, the back ranks are cleared of pieces, and the white Bishops, Knights, and Queen are gathered together. Starting with Black, the players, in turn, place one of these pieces on White's back rank, where it must stay. The only restriction is that the Bishops must go on opposite colored squares. There will be a vacant square of the required color for the second Bishop, no matter where the previous pieces have been placed. After all five pieces have been put on the board, the King must be placed on the middle of the three vacant back rank squares that remain. Rooks go on the other two.

History

The first Fischer Random Chess tourney was held in Yugoslavia in the spring of 1996, and was won by Grandmaster Peter Leko.

In 2001, Leko became the first Fischer Random Chess world champion, defeating Grandmaster Michael Adams in an eight game match played as part of the Mainz Chess Classic. There were no qualifying matches (also true of the first orthodox world chess champion titleholders), but both players were in the top five in the January 2001 world rankings for orthodox chess. Leko was chosen because of the many novelties he has introduced to known chess theories, as well as his previous tourney win; in addition, Leko has played Fischer Random Chess games with Fischer himself. Adams was chosen because he was the world number one in blitz (rapid) chess and is regarded as an extremely strong player in unfamiliar positions. The match was won by a narrow margin, 4.5 to 3.5.

In 2002 at Mainz, an open Fischer Random tournament was held which attracted 131 players. Peter Svidler won the event. Other interesting events happened in 2002. The website ChessVariants.com selected Fischer Random chess as its "Recognized Variant of the Month" for April 2002. Yugoslavian Grandmaster Svetozar Gligoric published in 2002 the book *Shall We Play Fischerandom Chess?*, popularizing this variation further.

At the 2003 Mainz Chess Classic, Svidler beat Leko in an eight game match for the World Championship title by a score of 4.5 - 3.5.

Naming

This particular chess variant has a number of different names. The first names applied to it include "Fischer Random Chess" and "Fischerandom Chess".

Hans-Walter Schmitt (chairman of the Frankfurt Chess Tigers e.V.) is an advocate of this chess variant, and he started a brainstorming process to choose a new name for it. The new name had to obey the following requirements on the parts of some leading grandmasters:

1. It should not use parts of the name of any Grandmaster colleague
2. It should not include negatively biased or "spongy" elements like "random" or "freestyle"
3. It should be understood worldwide.

This effort culminated in the name "Chess960", deriving from the number of different initial positions.

R. Scharnagl, another proponant of this variant, has consistently used the term FullChess. He believes "FullChess" to also satisfy these premises, and that it also emphasizes the compatible embedding of the traditional game of chess.

At this time the terms "Fischer Random Chess" or "Fischerandom chess" are more common. It is not yet clear if these other, newer terms, or yet another one will replace it.

Fantasy Chess

Alice Chess | Antichess | Atomic Chess | Avalanche Chess | Baroque Chess | Bughouse Chess | Capablanca Chess | Circe Chess | Grand Chess | Grid Chess | Kriegspiel | Madrasi Chess | Martian Chess | Monster Chess | Omega Chess | Patrol Chess | Progressive Chess | 3D Chess

Alice Chess

Alice Chess is a chess variant played using two chess boards rather than one. Its name is a reference to Lewis Carroll's character, Alice. Like a number of other variants, it was invented by V.R. Parton.

All pieces move in the same way as in standard chess, except that Alice Chess is normally played without the *en passant* rule (see rules of chess). At the start of the game, the pieces are set up in their normal position on one board, with the second board empty. When a move is played, the piece moved passes "through the looking glass" onto the other board.

Captures are made on the board the piece begins on.

For a move to be legal, the destination square on the board it will end up on must be empty, and the move must be legal on the board on which it is played.

A short game of Alice Chess (notated in algebraic notation) might run 1. e4 d5 2. Bc4 dxe4 (on the second board) 3. Bb5 mate (the bishop moves back onto the first board). All the pieces which moved to the second board have either moved again and so returned to the first, or have been captured.

Antichess

Antichess, also called **Losing chess** and **Suicide chess** is a chess variant in which the objective is to lose all of your pieces.

We present here the most widely played variation, as described in the book "Popular Chess Variants" by D. B. Pritchard.

The rules of the game are the same as those of chess except for the following additional rules:

- Capturing is compulsory.
- When a player can capture, but has different choices to capture a piece, he may choose among them.
- The king plays no special role in the game, i.e,
  - It be captured like any other piece.
  - There is no check or checkmate.
  - Castling is not allowed.
  - Pawns may also promote to King.
- In the case of stalemate, the winner is the player who cannot make any move.

A player wins the game either by losing all her pieces or by forcing the opponent to stalemate her. The game might be drawn, apart from move repetition or mutual accord, when it is impossible to get a win. For example, a dark squared bishop against a white squared bishop.

The FICS uses a variant in which the player with the lesser number of pieces wins in the case of a stalemate. This is usually the player that is unable to move, so this rule difference rarely affects the outcome of a game. In another little-played version, the goal is to force your opponent to checkmate your king.

Because of the forced capture rule, antichess games often have a long sequence of forced captures by one player. This means that a little mistake can ruin the whole game. Losing openings are 1.b4, 1.d3, 1.d4, 1.e4, 1.f4, 1.h3, 1.h4, 1.Nf3 and 1. Nc3. (See algebraic chess notation). Some of these openings took months of computer time to solve, but the wins against 1.d3, 1.d4, and 1.e4 consist of a single series of forced captures, and can be played from memory by most experienced players.

Other names for the game

- Slovenian **Žri** (*Devour this up*)

Atomic Chess

Atomic chess is identical to regular chess with one exception. The exception regards what happens when one piece captures another piece. In regular chess the captured piece is removed from the board and the capturing piece takes its place. In atomic chess both pieces are 'killed' (i.e. removed from the board) because every capture releases an atomic explosion. In addition, this explosion extends to all 8 surrounding squares. Any pieces caught in the surrounding squares are also killed with the sole exception of pawns. Pawns are killed only when they are involved in the actual capture event in the central square. Otherwise they are unharmed and remain on the board.

Checkmate is rarely achieved in atomic chess. Instead, the death of the opposing king happens when he is caught too near an atomic explosion. Thus, both players endeavor to capture a piece adjacent to their opponent's king, igniting an atomic explosion and slaying the king.

Because White has the initiative, Black is often reduced initially to fending off crude threats of atomic death directed at his pawn at f7. If he survives, however, the tables can turn very quickly in this game of unabashed destruction.

Games rarely last any longer than five minutes. Some players find that adding their own sound effects enhances the experience.

Avalanche chess

Avalanche chess is a chess variant designed by Ralph Betza in 1977. It is one of the more popular chess variants played in the world today. After moving one of your own pieces, you *must* move one of your opponent's pawns forward one space.

Rules are as normal chess except for the following:

1. After you move one of your own pieces, you *must* move one of your opponent's pieces one space forward toward you. You cannot use your opponent's pawn to capture and you cannot move your opponent's pawn two spaces forward.

2. If none of their opponent's pawns can be moved, then that part of the turn is forfeited.

3. If a player must move their opponent's pawn to promotion then the owner of the pawn chooses to what piece it promotes.

4. If after moving an opponent's pawn, that piece gives check, then their opponent wins the game immediately.

Baroque chess

This page originally stated that **Baroque chess** was invented in 1962 by Robert Abbott. This is incorrect, as one may discover by reading "The Fairy Chessmen" by Lewis Padgett (originally published in "Astounding Stories" magazine in January 1946 and later published in the hardcover book "Tomorrow and Tomorrow and the Fairy Chessmen", Gnome Press 1951). "Lewis Padgett" was the pseudonym of science fiction collaborators Henry Kuttner and C. L. Moore.

Whatever Abbott may have done to package the ideas of **Fairy Chess** into **Baroque chess**, it is clear that Kuttner and Moore had prior art.

In 1963, at the suggestion of his publisher, Robert Abbott changed the name of **Baroque chess** to **Ultima**, by which name it is now commonly known. Abbott considers his own "invention" to be flawed, and has suggested several amendments to the rules, but these suggestions have been substantially ignored by the gaming community, which continues to play by the 1963 rules.

Baroque chess can be played with the standard chessboard and pieces, although this can be confusing at first to players familiar with the normal game. All the pieces except for the king have different methods of capture, and all but the pawn have different names. The initial setup of the pieces is the same as in standard chess, except that the white king and queen exchange squares, and the rooks on a1 and h8 are inverted.

The names of the pieces and rules for movement are as follows:

- The king moves and captures like a standard chess king. The objective of the game is to checkmate the opposing king.

- The pawns move like standard chess rooks. A pawn captures any opposing piece horizontally or vertically between the square to which the pawn moved and a friendly piece.

The remaining pieces all move like standard chess queens, but have unique methods of capture.

- The *withdrawer*, represented by the queen, captures by moving directly away from an adjacent piece.
- The *long-leapers*, represented by the knights, capture by jumping over an opposing piece in a straight line. A long-leaper may make multiple captures in the same line as long as each piece is jumped independently.
- The *coordinator*, represented by the unmarked rook, captures whatever opposing piece is on its file and the king's rank, or the king's file and its rank, after the coordinator has moved.
- The *immobilizer*, represented by the inverted rook, does not capture anything, but immobilizes all adjacent enemy pieces.
- The *chameleons*, represented by the bishops, capture any piece by moving as a piece of the type captured would have moved to capture. Also chameleons immobilize enemy immobilizers to which they are adjacent. Chameleons cannot capture chameleons.

See also

- Chess
- Chess variant

Bughouse chess

Bughouse Chess, **Siamese Chess**, or **Tandem Chess** is a variation of chess played with two teams of two people with two chess boards. Team members sit beside each other playing opposite colors. Each player plays his opponent like in a standard chess game except that when pieces are captured they are given to the teammate. The teammate can then decide to place the captured piece almost anywhere on the board in place of a regular move (as in shogi). Team members have to work together, and against a clock, to win. The first board to lose decides the match and if a draw occurs on one board the entire game is a draw.

There are two main variants of Bughouse Chess: Bughouse and Tandem Chess. The main diference is that in Tandem Chess, one cannot use pieces to check or to mate. Also, in Tandem Chess one cannot place pawns on the 1st, 7th or 8th rows if playing white or on the 1st, 2nd, or 8th rows if playing black. In Bughouse anyone can drop any piece anywhere except for pawns on the 1st or 8th row.

Both Bughouse and Tandem Chess use chess clocks to prevent players from waiting indefinitely for a piece (waiting for pieces is considered perfectly acceptable, see bughouse strategy below). Tandem Chess is usually played with 5 minutes per player, and bughouse 3.

Though opinions vary about this, it is generally accepted that at least some form of discussion between teammates is allowed. Any Bughouse variant allows players to ask their partners to capture a specific piece for them.

Bughouse Strategy

One of the main ingredients of any bughouse game is time. It is not uncommon for one player to completely stop moving because he knows that any move he makes will result in him getting mated the next move. It is even possible for this to happen on both boards. For example: I am one move away from checkmating my opponent, so he is not moving. However, my teammate is also not moving because any move on his part will result in checkmate. The game now turns into a game of sitting, called a 'Sitzkrieg' (after the German for Sitting War). The game is now decided by whether my teammate or my opponent has the most time left on their clock, because if either runs out of time he will be forced to move and will be immediately loose.

Another very important aspect of Bughouse is player communication. It is customary to announce any big gains or losses ("rook in 3!") and to ask for specific pieces while listing their result ("pawn is rook!"). If you do not do this you might very well find that your partner loses because he was unable to plan ahead for any incoming pieces.

Where to play

The best place to play is probably on the board (or in this case two boards) with some friends, but in case you don't have enough players a good place to play online is FICS, which is also a good place for normal chess games. To play bughouse you can use clients such as XBoard, Winboard or other clients listed for example on the FICS page.

Capablanca Chess

Capablanca Chess is a variation on the game of chess that exists in several version played on a board of either 10x10 or 10x8 squares.

Each player has a king, a queen, a chancellor (sometimes called differently), an archbishop (sometimes called differently), two rooks, two knights, two bishops, and ten pawns.

The game is named after its inventor, World chess champion José Raúl Capablanca.

See also: Chess variant

Circe chess

Circe chess (or just **circe**) is a chess variant in which captured pieces are reborn on their starting positions as soon as they are captured, based on the following rules:

1. Pawns return to the start position on the same file they are captured on.

2. Rooks, knights and bishops return to the starting square which is the same color as the square they are captured on.

For instance, a white pawn captured on b4 is reborn on b2; a black knight captured on f6 is reborn on b8; a black rook captured on the same square is reborn on h8. Castling with a reborn rook is permitted.

If the square that the rebirth should take place on is occupied, either by a friendly or enemy piece, the captured unit is not reborn--it is instead removed from the board and takes no further part in the game (like a capture in orthodox chess).

The rules of circe chess were first detailed by P. Monreal and J. -P. Boyer in an article in *Problème*, 1968.

These are the most usual rules employed in circe - there are numerous other forms of the game in which the rules of rebirth may vary.

When notating a circe game in algebraic notation, it is conventional to place details of where a captured piece has been reborn in brackets following the move. For example, if in the diagram to the right, white were to take black's knight, this would be notated Rxe8(Ng8).

The position to the right demonstrates a couple of unusual effects which can occur in circe. It is black to move. White is threatening checkmate with 1.Re1#. Black would not be able to defend with 1...Kxe1 after this move, because the rook is instantly reborn on a1 from where it gives check (the fact that black's bishop defends a1 is of no consequence - after Kxe1 it will be white's move). It might appear that there is nothing black can do to prevent this threat, but in fact he has 1...Ba1! - if now 2.Re1+, Kxe1 is possible because the rook is not reborn owing to its rebirth square being occupied.

Circe is rarely played as a variant game (when it is, it is usually combined with progressive chess), but very often employed in composed chess problems.

Grand Chess

Grand Chess is a chess variant invented by Christian Freeling. It is played on a 10 x 10 board, has two additional pawns, and two new pieces: the Marshall and the Cardinal.

Working from the theory that the queen is merely a combination of a rook's and a bishop's powers, Freeling created the combination of each with a knight (as in the earlier Capablanca chess). The Marshall moves like the knight and the rook of standard chess; the Cardinal moves like the knight and the bishop.

Two other variations are in piece setup, and in pawn promotion. The pieces are set up as in standard chess, but on the player's second and third ranks, rather than the first and second. The rooks are then left in the first rank, eliminating the need for castling, and speeding their release into the game.

Pawns may elect to promote upon reaching the eighth or ninth rank, but must promote at the tenth.

Grid chess

Devised by Walter Stead in 1953, **grid chess** is a chess variant played with a *grid board*. This is a normal 64-square board with a grid of lines further dividing the board into larger squares. For a move to be legal in grid chess, the piece moved must cross at least one of these lines.

Various arrangements of the grid have been tried, but the original, and by far the most popular, is that shown to the right, which divides the board into 16 2x2 squares. Unless otherwise stipulated, the term *grid board* can be assumed to refer to this arrangement, and *grid chess* to chess played on this board.

It is possible to play entire games under grid chess conditions, and a number of chess problems using grid chess rules have also been composed.

Kriegspiel

Kriegspiel is the name of a chess variant, in which each player can see their own pieces, but not those of their opponent. For this reason, it is necessary to have a third person act as a referee.

Madrasi chess

Madrasi chess is a chess variant invented in 1979 by A. J. Karawatkar which uses the conventional rules of chess with the addition that when a piece is attacked by a piece of the same type but opposite colour (for example, a black queen attacking a white queen) it is paralysed and becomes unable to move, capture or give check. Most of the time, two like pieces attack each other mutually, meaning they are both paralysed (*en passant* pawn captures are a rare exception to this).

This paralysis rule is not usually extended to the kings, meaning that as in orthodox chess, the two kings cannot move to adjacent squares; when it *is* extended to kings, the variant is called *Madrasi rex inclusive* (sometimes shortened to *Madrasi RI*). Although it is possible to play complete games of both Madrasi chess and Madrasi RI, they have mainly been used as a condition in chess problems.

Isardam is a variant of Madrasi in which only moves which do not lead to a Madrasi paralysis are legal.

Martian Chess

Martian Chess is an abstract strategy game for two or four players invented by Andrew Looney. It is played with Icehouse pieces on a chessboard or checkerboard.

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Rules

Initial setup

Each player starts with nine pieces: three small, three medium, and three large. The color of the pieces is irrelevant; for reasons given below, a mix of colors should be used.

In a two-player game, only half the board is used; a folding checkerboard is useful.

The players decide who moves first by a random method or by agreement. Play passes to the left after each move.

Movement and capturing

The red lines in the diagrams indicate notional *canals* that divide the board into *territories*. At any given time a player controls only those pieces that are in his or her territory.

The pieces may be moved as follows:

- small pieces *(pawns)* move one space diagonally (unlike chess pawns, they may move backwards)

- medium pieces *(drones)* move one or two spaces horizontally or vertically
- large pieces *(queens)* move any distance horizontally, vertically or diagonally, just like a chess queen

A piece is captured when an enemy piece lands on the square it occupies. The person who moved takes the piece and puts it aside for later scoring.

Since a piece is always owned according to the territory it is in, a player whose piece is captured immediately gains control of the capturing piece. It is easy to forget this if each player's starting pieces are all the same color, so it's better to start with a mix of colors instead (unless you have enough pieces that everyone can use the same color).

Pieces may not jump over other pieces, nor may they end a move on an occupied square except to capture.

The *No Rejections* rule: in the two-player game, you may not immediately reverse your opponent's last move.

End of game and scoring

The game ends when one player runs out of pieces (i.e., their territory becomes empty). Players then compute their scores by adding up the pips on their captured pieces: 3 per queen, 2 per drone, and 1 per pawn. The player or players with the highest total win.

In a variation of the four-player game, the players form two teams who play for a combined score. Teammates sit at opposite corners. Aside from strategic differences, play is unaffected; it is legal (and sometimes good strategy) to capture your teammate's pieces.

Strategy

Capturing with a queen often allows the opponent to immediately recapture, leading to a back-and-forth battle until one player runs out of pieces in the line(s) of capture. This is more common in two-player games, since other players may interfere in the four-player version. The net point difference is usually minor with two players, but can give the players involved a significant lead over the others in a four-player game.

More generally, remember that any piece used to capture becomes the opponent's, and consider which of your pieces will be vulnerable.

Moving a pawn or drone into enemy territory can be a good move for several reasons:

- it can prevent an opponent from capturing the piece from you
- it can ensure that you capture that piece or another piece from an opponent

- it can block an attack from an opposing queen or drone

If you're in the lead and don't have many pieces left, get rid of them to end the game.

Monster Chess

Monster Chess is a fantasy chess variant in which the White King has only the Queen Pawn, the King Pawn and the King Bishop Pawn to fight against all the pieces of the Black side.

All the rules of chess apply, except that White makes 2 successive moves per turn.

Sometimes White's moves can be executed with humor. For example, both hands can be used to move 2 pawns simultaneously, or a Black piece one square away from the White King can simply be removed from the board. Queening a White Pawn generally allows White to declare a checkmate the next move. Also, with only the 2 Kings on the board, White can easily force a Monster Chess checkmate.

Omega chess

Omega Chess is a commercial chess variant designed by Daniel McDonald in Toronto. The game is played on a 10x10 board with an extra square dangling off each of the four corners for the wizards. The game is laid out like regular chess with the addition of a champion in the corner and a wizard diagonally behind each champion (see diagram on right).

The New Pieces

- **Champion:** moves one or two spaces like a rook or two spaces diagonally jumping over the intervening square if necessary.
- **Wizard:** moves either like a 3x1 knight (instead of a traditional 2x1 knight) or one space diagonally.

Part of the reason for adding the new pieces was to equalize the number of jumping pieces with sliding pieces. There have also been a number of endorsements by grandmasters including Michael Rohde and Alex Sherzer.

See also: Capablanca Chess

Patrol chess

Patrol chess is a chess variant in which captures can be made and checks given only if the capturing or checking piece is guarded (or *patrolled*) by a friendly unit. Non-capturing moves are played as normal.

The variant was invented by Federik Hendrik von Meyenfeldt who published a chess problem using the rules in *The Problemist* (the magazine of the British Chess Problem Society) in 1975.

Patrol chess has often been used as a condition in chess problems. It is also possible to play complete games under patrol chess rules.

Progressive chess

Progressive chess is a chess variant in which players, rather than just making one move per turn, play progressively longer series of moves. The game starts with white making one move, then black makes two consecutive moves, white replies with three, black makes four and so on.

There are two main varieties of progressive chess: *Italian progressive chess* and *Scottish progressive chess* (otherwise known as *Scotch chess*). The two have the following rules in common:

- A check must be escaped from on the first move of a series--if this cannot be done, it is checkmate and the game is lost.
- *En passant* captures of pawns are allowed if the pawn in question moved two squares in one move, but no further, at some point during the last turn , but the capture must be made on the first move of a series.
- If ten consecutive turns are played with no captures and no pawn moves, then the game is declared a draw unless one of the players can force a checkmate (this is the progressive chess equivalent of the fifty move rule in orthodox chess).
- If at any stage a player has no legal moves but is not in check, the game is a draw by *progressive stalemate*.

Italian and Scottish progressive chess are distinguished by rules on when a player is allowed to give check:

- *Scottish progressive chess*: check may be given on any move of a series, but a check ends the series--all further moves that would otherwise be allowed are forfeited. This has no effect on the other player's next series--he will receive as many moves as he would have had the other player played his full series.
- *Italian progressive chess*: a check may only be given on the last move of a full series (for example, on move six, a check can only be given on the sixth move)--giving a check at any other point in a series is illegal. In particular, if the only way to escape a check is to give check on the first move of the series, then the game is lost by the player in check by "progressive checkmate".

Progressive chess, like orthodox chess, is notated with algebraic notation. However, the numbering of moves is handled slightly differently. Rather than one white and one black move being given under each move number (leading to notation in orthodox chess like 1.e4 e5 2.Nf3 Nc6 3.Bb5 a6), each move by each player is given its own move number (leading to notation in progressive chess like 1.e4 2.e5 Nf6 3.Bc4 Qh5 Qxf7#). In this way, the move number is equal to the number of moves in a series available to a player on that turn.

There is another form of progressive chess, *English progressive chess*, which makes quite a significant change to the rules: within each turn, no piece may be moved twice until every other piece which has a legal move has moved once; no piece may move three times until every other piece which can has moved twice; and so on. These restrictions do not carry over from one move to the next--so the opening 1.e4 2.e6 f6 3.e5 Nf3 Bc4 is legal (white's e-pawn may move again because its moves are on different turns), but the sequence 1.e4 2.e6 f6 3.e5 Ba6 Bxb7 is not (the bishop has made two moves, but there are many other white pieces which have not moved on that turn). There is no *en passant* capture under English rules, and rules on checks follow the Scottish rules.

Progressive chess can be combined with other variants; for example, when circe is played as a game, it is usually progressively.

Three-dimensional chess

Three-dimensional chess is a good example of a chess variant. Three-dimensional variants have existed since the late 19th century. One of the oldest versions still regularly played is Raumschach, invented in 1907 by Ferdinand Maack and played on a 5x5x5 board.

However, the most familiar variant to the general public in the early 21st century is the Star Trek game which can be seen on a lot of Star Trek movies and TV series, starting from the original one throughout the rest of the series. The same or different variant of 3-D chess is also seen in Ginga Eiyu densetsu, a Japanese sci-fi novel.

The original Standard Rules of this game were developed by Andrew Bartmess in 1976, while the chessboard set was made popular by inclusion in the Starfleet Technical Manual by Franz Joseph Schnaubelt. Schnaubelt did not design the original chessboard.

There also is a GNU FDL manual written in Italian by Marco Bresciani, which presents the complete standard set of rules with instructions on how to build a chessboard and many other things. This manual is available through the Star Trek Italian Club (see link at end), for members only.

There is a lot of software for playing three-dimensional chess, although no software completely uses Andrew Bartmess's Standard Rules.

Fairy Chess Piece

Andernach Chess

A **fairy chess piece** or **unorthodox chess piece** is a chess piece not used in conventional chess, but used in certain chess variants and some chess problems.

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1 Classification of fairy pieces

1.1 Leapers
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2 Royal pieces

3 List of orthodox and fairy chess pieces

Classification of fairy pieces

Most fairy pieces fall into one of three classes, although it should be noted that some are hybrid pieces (see the *Chinese pieces*, for example, which move as riders, but capture as hoppers) and others do not fall into this scheme at all:

Leapers

A leaper is a piece which moves a fixed distance and which can jump over any pieces between its departure and destination squares. A leaper's move is usually described by giving the number of squares it moves horizontally and vertically per move. For example, the knight in orthodox chess is a (2,1) leaper, meaning it moves two squares in one direction (horizontally or vertically) and one square in the other (note that it could also be described as a (1,2) leaper - there is no significance to the order of the numbers).

In shatranj, a forerunner to chess, the pieces which were later replaced by the bishop and queen were also leapers: the *alfil* was a (2,2) leaper (moving exactly two squares diagonally in any direction), and the *fers* a (1,1) leaper (that is, it can move one square diagonally in any direction).

Some leapers can chose between several different lengths of move - the king in orthodox chess, for example, which can move one square in any direction, could be considered a (1,1) or (1,0) leaper.

Leapers are not able to create pins, although they are often effective forking pieces.

Riders

A rider is a piece which can move an unlimited distance in one direction, providing there are no pieces in the way.

There are three riders in orthodox chess: the rook can move an unlimited number of (1,0) cells and is therefore a (1,0) rider; the bishop is a (1,1) rider; and the queen is a (1,1) or (1,0) rider.

The most popular fairy chess rider is the *nightrider*, which can make an unlimited number of knight moves (that is, 2,1 cells) in any direction (though, like other riders, it cannot change direction half-way through its move).

The names of riders are often obtained by taking the name of a leaper which moves a similar cell-size and adding the suffix *rider*. For example, the *zebra* is a (3,2) leaper, and the *zebrarider* is a (3,2) rider (though note that a *knight* (a (2,1) leaper) becomes a *nightrider* (without an initial K) not a *knightrider*.

Riders can create both pins and skewers.

Hoppers

A hopper is a piece which moves by jumping over another piece (this intervening piece is called a *hurdle*). Unless it can jump over a piece, it cannot move.

There are no hoppers in orthodox chess, although in xiangqi, the cannon captures as a hopper (when not capturing, it is a rider - the so-called *Chinese pieces* (see below) share this characteristic).

The most popular hopper in fairy chess is the *grasshopper*, which moves along the same lines as an orthodox queen, except that it must hop over some other piece and land on the square immediately beyond it.

Note that hoppers generally capture by taking the piece on the destination square, *not* by taking the hurdle (as is the case in checkers). An exception is the *locust*.

Royal pieces

A royal piece is one which cannot be allowed to be threatened with capture. If a royal piece is threatened with capture and cannot avoid capture next move, then the game is lost (this is *checkmate*). In orthodox chess, each side has one royal piece, the king. In fairy chess any other orthodox piece or fairy piece may instead be designated royal, there may be more than one royal piece, or there may no royal pieces at all (in which case the aim of the game must be something other than to deliver checkmate).

List of orthodox and fairy chess pieces

- **Alfil:** a (2,2) leaper. Found in shatranj.
- **Amazon:** a piece combining the powers of the *queen* and the *knight*. Also known as a **maharaja**.
- **Andernach grasshopper:** a *grasshopper* which changes the colour of the hurdle it leaps over. Also known as a *chopper*. See also Andernach chess.
- **Berolina pawn:** a piece which moves one square diagonally forward (except on its first move, when it may move two), but captures by moving one square straight forward. Compare with *pawn*.
- **Bishop:** a (1,1) rider. Found in orthodox chess.
- **Camel:** a (3,1) leaper.
- **Cannon:** see *pao*.
- **Cardinal:** a piece combining the powers of *bishop* and *knight*. Also called a *princess*.
- **Chancellor:** another name for the *empress*.
- **Chinese pieces:** a collective name for pieces derived from units found in xiangqi, the Chinese form of chess. The most common Chinese pieces are the *leo*, *pao* and *vao* (each of which are drevied from the Chinese cannon) and the *mao* (derived from the horse). Those derived from the cannon are distinguished by moving as a leaper when capturing, but otherwise moving as a rider. Less frequenly encountered Chinese pieces include the *moa*, *nao* and *rao*.
- **Chopper:** another name for the *Andernach grasshopper*.
- **Dabbabba:** a (2,0) leaper.
- **Elephant:** A (2,2) leaper, but it cannot jump over an intervening piece, like the **mao**. In Chinese Chess, the elephant is restricted to its half of the board.
- **Empress:** a piece combining the powers of the *rook* and *knight*. Also called an *chancellor*.
- **Fers:** a piece which can move one square in any direction diagonally; it can be considered a (1,1) leaper. Found in shatranj.
- **Giraffe:** a (4,1) leaper.

- **Grasshopper:** a hopper which moves along the same lines as a queen and lands on the square immediately beyond that of the hurdle. One of the most popular fairy pieces.

- **King:** a piece which can move one square in any direction; it could be considered a (1,0) or (1,1) leaper. Found in orthodox chess, when it is royal. A non-royal piece which moves in this way is sometimes called a *Mann*.

- **Knight:** a (2,1) leaper. Found in orthodox chess.

- **Knighted piece:** any piece which, in addition to its normal powers, can move like a knight. For example, an *amazon* is a knighted queen.

- **Kraken:** a piece which can leap to any square on the board, including the one it is currently on (leaping to the current square has the effect of passing a move). Compare with *universal leaper*.

- **Leo:** a *Chinese piece* which combines the powers of the *pao* and *vao*; it is therefore a piece which moves like a queen when not capturing (that is, a (1,0) or (1,1) rider), but captures by leaping over an intervening piece and taking the piece on the leo's destination square (the captured piece can be any number of squares beyond the hurdle).

- **Lion:** a hopper which moves along the same lines as a *queen* and which can land on a sqaure any distance beyond the hurdle.

- **Locust:** any piece which captures by hopping over its victim (as in draughts).

- **Maharaja:** another name for an *Amazon*.

- **Mao:** a *Chinese piece* which moves like a *knight* except that it does not leap. It first moves one square orthogonally in any direction, and then continues in the same general direction one square diagonally. The square it is on after its orthogonal move must be vacant. For example, if a white mao is on b2 and there is a white pawn on b3, the mao cannot move to a4 or c4; if the pawn is on c3, however, it can move to both those squares (because the first part of the move is orthogonal, not diagonal).

- **Moa:** as the *mao*, but the first step is diagonal and the second orthogonal, not the other way round.

- **Nao:** a Chinese *nightrider* - that is, a piece which moves as a normal nightrider (that is, a (2,1) rider) when not capturing, but which captures by leaping over an intervening piece and taking the piece on the nao's destination square (the captured piece can be any number of knight-moves beyond the hurdle).

- **Nightrider:** A rider which moves any number of 2,1 cells (ie, knight moves) in the same direction). A nightrider on b2 on an empty board, therefore, can move to a4, c4, d5, e7, d3, f4, h5 and d1. A pawn of the opposing colour on d5 could be captured, but the nightrider could not move any further in that direction. A pawn on, for example, b3, would have no effect. One of the most popular fairy pieces.

- **Pao:** a *Chinese piece* which moves like a rook when not capturing (that is, a (1,0) rider), but captures by leaping over an intervening piece and taking the piece on the pao's destination square (the captured piece can be any number of squares beyond the hurdle). Found in xiangqi (in which context it is normally known in English as a *cannon*).

- **Pawn:** one of the pieces in orthodox chess which moves one square straight forward (except on its first move, when it may move two squares), but captures one square forward diagonally. Compare with *Berolina pawn*.

- **Princess:** another name for the *cardinal*.

- **Queen:** a (1,0) or (1,1) rider. Combines the powers of the *bishop* and *rook*. Found in orthodox chess.

- **Rao:** a Chinese *rose* - that is, a piece which moves as a normal rose when not capturing, but which captures by leaping over an intervening piece and taking the piece on the rao's destination square (the captured piece can be any distance beyond the hurdle).

- **Rook:** a (1,0) rider. Found in orthodox chess.

- **Rose:** a piece which moves as a *nightrider*, except that rather than moving in a straight line, it moves along pseudo-circular ones. A rose standing on e1 on an empty board, for instance, can move to any of the squares on the large circle c2, b4, c6, e7, g6, h4 and g2; as well as d3 and b4; or d3, e5 and g6 and so on. As with the nightrider, an opposite-coloured piece on any one of these squares can be captured, but prevents the rose from progressing any further along that line.

- **Universal leaper:** a piece which can leap to any square on the board apart from the one it is on. Compare with *kraken*.

- **Vao:** a *Chinese piece* which moves like a bishop when not capturing (that is, a (1,1) rider), but captures by leaping over an intervening piece and taking the piece on the vao's destination square (the captured piece can be any number of squares beyond the hurdle).

- **Wazir:** a piece which can move one square orthogonally in any direction; it can be considered a (1,0) leaper.

- **Zebra:** a (3,2) leaper.

Andernach chess

Andernach chess is a chess variant in which a piece making a capture (except kings) changes colour. For instance, if a white bishop on a2 were to capture a black knight on g8, the end result would be a black bishop on g8. Non-capturing moves are played as in orthodox chess.

The variation grew out of Tibetan chess, in which a black unit changes colour when it captures a white piece of a different type. It is named after the German town of Andernach, which is the site of annual meetings of fairy chess enthusiasts. It was during the 1993 meeting there that Andernach chess was introduced with a chess problem composing tourney for Andernach problems. It has since become a popular variant in problem composition, though it has not yet become popular as a game-playing variant.

A variant on Andernach chess is *anti-Andernach*, in which pieces except kings change colour after non-captures, but stay the same colour after a capture.

Miscellaneous

Chess Olympiad | Mental Training | Correspondence Chess | Lewis Chessmen | Related Deaths

Chess Olympiad

The **Chess Olympiad** is a chess event which has been organized by FIDE every second year since 1927.

Men's olympiads

- 1924: *1st unofficial Chess Olympiad*, Paris, France -- Czechoslovakia.
- 1927: 1st Chess Olympiad, London, United Kingdom, -- Hungary.
- 1928: 2nd Chess Olympiad, The Hague, Netherlands, -- Hungary.
- 1930: 3rd Chess Olympiad, Hamburg, Germany, -- Poland.
- 1931: 4th Chess Olympiad, Prague, Czechoslovakia, -- USA.
- 1931: *2nd unofficial Chess Olympiad*, Budapest, Hungary, -- Hungary.
- 1933: 5th Chess Olympiad, Folkestone, England, -- USA.
- 1935: 6th Chess Olympiad, Warsaw, Poland, -- USA.
- 1936: *3rd unofficial Chess Olympiad*, Munich, Germany, -- Hungary.
- 1937: 7th Chess Olympiad, Stockholm, Sweden, -- USA.
- 1939: 8th Chess Olympiad, Buenos Aires, Argentina, -- Czechoslovakia.
- 1950: 9th Chess Olympiad, Dubrovnik, Yugoslavia, -- Yugoslavia.
- 1952: 10th Chess Olympiad, Helsinki, Finland, -- USSR.
- 1954: 11th Chess Olympiad, Amsterdam, Netherlands, -- USSR.
- 1956: 12th Chess Olympiad, Moscow, USSR, -- USSR.
- 1958: 13th Chess Olympiad, Munich, West Germany, -- USSR.
- 1960: 14th Chess Olympiad, Leipzig, West Germany, -- USSR.

- 1962: 15th Chess Olympiad, Varna, Bulgaria, -- USSR.
- 1964: 16th Chess Olympiad, Tel Aviv, Israel, -- USSR.
- 1966: 17th Chess Olympiad, Havana, Cuba, -- USSR.
- 1968: 18th Chess Olympiad, Lugano, Switzerland, -- USSR.
- 1970: 19th Chess Olympiad, Siegen, West Germany, -- USSR.
- 1972: 20th Chess Olympiad, Skopje, Yugoslavia, -- USSR.
- 1974: 21st Chess Olympiad, Nice, France, -- USSR.
- 1976: 22nd Chess Olympiad, Haifa, Israel, -- USA.
- 1976: *4th unofficial Chess Olympiad*, Tripoli, Libya, -- El Salvador.
- 1978: 23rd Chess Olympiad, Buenos Aires, Argentina, -- Hungary.
- 1980: 24th Chess Olympiad, Valletta, Malta, -- USSR.
- 1982: 25th Chess Olympiad, Lucerne, Switzerland, -- USSR.
- 1984: 26th Chess Olympiad, Thessaloniki, Greece, -- USSR.
- 1986: 27th Chess Olympiad, Dubai, United Arab Emirates, -- USSR.
- 1988: 28th Chess Olympiad, Thessaloniki, Greece, -- USSR.
- 1990: 29th Chess Olympiad, Novi Sad, Yugoslavia, -- USSR.
- 1992: 30th Chess Olympiad, Manila, Philippines, -- Russia.
- 1994: 31st Chess Olympiad, Moscow, Russia, -- Russia I.
- 1996: 32nd Chess Olympiad, Yerevan, Armenia, -- Russia.
- 1998: 33rd Chess Olympiad, Elista, Kalmykia, -- Russia.
- 2000: 34th Chess Olympiad, Istanbul, Turkey, -- Russia.
- 2002: 35th Chess Olympiad, Bled, Slovenia, -- Russia

The 2004 Olympiad was originally planned to take place at Cala Galdana on Menorca, but in October 2003, a change of venue to Calviá on Mallorca was announced. This change was

apparently motivated by funding difficulties. The 2006 Olympiad is due to be held in Turin in Italy.

Chess as mental training

Teaching and playing the game of chess has often been advocated as a form of **mental training**.

Benjamin Franklin, in his article *The Morals of Chess* (1750), advocated such a view:

"The Game of Chess is not merely an idle amusement; several very valuable qualities of the mind, useful in the course of human life, are to be acquired and strengthened by it, so as to become habits ready on all occasions; for life is a kind of Chess, in which we have often points to gain, and competitors or adversaries to contend with, and in which there is a vast variety of good and ill events, that are, in some degree, the effect of prudence, or the want of it. By playing at Chess then, we may learn: 1st, Foresight, which looks a little into futurity, and considers the consequences that may attend an action ... 2nd, Circumspection, which surveys the whole Chess-board, or scene of action: - the relation of the several Pieces, and their situations; ... 3rd, Caution, not to make our moves too hastily...."

The U.S. Chess Center in Washington, D.C., teaches chess to children, especially those in the inner city, "as a means of improving their academic and social skills."

There are a number of experiments that suggest that learning and playing chess does, indeed, aid the mind in certain ways. The U.S. Chess Federation (USCF) chess research bibliography contains a collection of many such experimental results.

Sources

- Benjamin Franklin: The Morals of Chess
- U.S. Chess Center
- USCF Chess Research Bibliography

Correspondence chess

Correspondence chess is chess played by some sort of long-distance correspondence, usually through the postal system or e-mail. Less usual methods which have been employed include fax and homing pigeon. It is opposed to so-called *over-the-board* (OTB) chess, where the players are sat at a chessboard at the same time.

Postal chess allows people or clubs geographically distant to play one another without meeting in person. The length of a game played by correspondence can vary depending on the method used to transmit the moves - a game played by e-mail might last no more than a

few months, but a game played by post between players in different countries might last five years or more.

Correspondence chess differs from over-the-board play in several respects. While in OTB chess only one game is played at a time (the exception being in a simultaneous exhibition), in correspondence chess several games are usually played at once. All games in a tournament are played concurrently, and some players may have more than a hundred games continuing at the same time.

The time limits in correspondence play are far longer than over-the-board chess, being measured in weeks and months rather than minutes and hours. This allows for far deeper calculation, meaning that blunders are very rare. The use of chess books and chess computers is allowed, although many hobby players voluntarily do without them. At the top level, however, computers, while useful for checking relatively short-term tactics, are no match for the strongest players if left to play a complete game.

The international governing body of correspondence chess is the International Correspondence Chess Federation (ICCF) which organises postal and e-mail events. There are numerous national and regional bodies for postal chess, as well as a number of organisations devoted to organising e-mail play.

The ICCF awards the titles International Master, Senior International Master and Grandmaster - these are equivalent to similar titles awarded by FIDE for over-the-board chess. The ICCF also runs the World Correspondence Chess Championships. The winner of the 15th Championships, completed in 2002, was Gert Jan Timmerman. As of November 2003 the 16th Championship is incomplete, but T. Hamarat has an unassailable lead. The final of the 17th Championship began in March 2002, and the 18th began in June 2003.

Although nowadays the strongest correspondence players are specialists, not often well known in over-the-board play, a number of notable players in the past have played postal games. Paul Keres, an Estonian sometimes regarded as the strongest player never to become world champion, played many games of correspondence chess, apparently because he had difficulty finding players in his native country anywhere near strong enough to give him a decent game. Alexander Alekhine and Max Euwe also played.

Lewis chessmen

The **Lewis chessmen** are one of the few complete sets of medieval chessmen that have survived until today,

The chessmen were discovered in 1831 in a sand-bank at the head of the Bay of Uig on the west coast of the Isle of Lewis, one of the Outer Hebrides. We do not have a direct account of their discovery, but it is reported that they were found in a small chamber of dry-built stone about 15 feet below the top of the sand-bank.

They were exhibited by Roderick Ririe at a meeting of the Society of Antiquaries of Scotland, on April 11, 1831. The chessmen were soon after split up, with 10 being purchased by Kirkpatrick Sharpe and the others (67 chessmen and 14 tablemen) were purchased on behalf of the British Museum.

Kirkpatrick Sharpe later found another Lewis chessman to take his collection up to eleven, all of which were later sold to Lord Londesborough. In 1888 they were again sold, but this time the purchaser was the Society of Antiquaries of Scotland, who donated the pieces to the Scottish National Museum, Edinburgh.

The pieces donated to the British Museum are still located there, and can be found in Room 42 with the exhibition code M&ME 1831,11-1.

All of the pieces in the collection are carved of walrus ivory. The collection consists of 8 Kings, 8 Queens, 16 Bishops, 15 Knights, 12 Rooks, and 19 Pawns.

Bibliography

- N. Stratford, The Lewis chessmen and the enigma of the hoard (The British Museum Press, 1997)
- Michael Taylor, The Lewis Chessmen, (British Museum Publications Limited)
- HJR Murray, A History of Chess, (Oxford University Press)

Chess-related deaths

As with all games over a certain age, chess has had a number of anecdotes associated with it, some relating to games that have got out of hand and have resulted in the murder of one of the players.

The reliability of most of the anecdotes is dubious, although some do appear to based on some form of factual event.

Possibly the anecdote with most supporting evidence is given in the book *Chess or the King's game* (1616) by Augustus, Duke of Lüneburg, who claimed to have obtained it from an old Bavarian Chronicle, then in the library of Marcus Welsor but now lost. The anecdote states that Okarius (also spelt Okar or Otkar), the prince of Bavaria, had a son of great promise residing at the Court of King Pepin. One day Pepin's son was playing at chess with the young Prince of Bavaria, and became so enraged at repeatedly losing that he hit the latter on the temple with one of his rooks and killed him on the spot. This anecdote is repeated in another Bavarian Chronicle, and in a work by Metellus of Tegernsee about Saint Guirin and other documents refer to his death while at Pepin's court.

King Canute, best known for his failed attempts to halt the incoming tide, is said by some to have had Earl Ulf killed after a disagreement about a chess game. By one account, the king made an illegal move that angered the earl, who knocked over the board and stormed off, after which the king sent someone to kill him.

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